UNIVERSITY OF SCRANTON CATALOG 1970 - 1971

COLLEGE OF ARTS AND SCIENCES

1970-1971

UNIVERSITY OF SCRANTON

COLLEGE OF ARTS AND SCIENCES

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UNIVERSITY OF SCRANTON
A JESUIT LIBERAL ARTS COLLEGE

OBJECTIVES

The University of Scranton is a community dedicated to the intellectual enrichment and personal growth of all its members. Oriented to the co-operative pursuit of all truth, human and divine, it endeavors to make a synthesis of these truths. In a Christian environment, it strives to stimulate the student to progressive self-development.

The University of Scranton seeks to help the student become truly free; free from the limitations of his own experience; free from the domination of impulse so that reason and religious principles may integrate his life; free to serve others of whatever race, color or creed; and, sensitive to their needs, to enter into ecumenical dialogue for the betterment of society; free to question society responsibly and to criticize it constructively, recognizing maturely the need of order in that society; free to live as a human person made in the image of God and called to membership in the divine family.

BULLETIN OF THE UNIVERSITY OF SCRANTON

COLLEGE OF ARTS AND SCIENCES
1970-71

Volume 55, Number 4 August 31, 1970

UNIVERSITY OF SCRANTON

COLLEGE OF ARTS AND SCIENCES
CALENDAR 1970-1971

FALL SEMESTER
1970

September	1-2-3-4	Freshman Orientation
	7	Labor Day — Holiday
	8	Classes Begin
	11	Final Day for Late Registration and Change of Course
October	30	End of First Quarter
November	26-27	Thanksgiving Holidays
December	17-23	Semester Examinations
	23	End of Fall Semester — Christmas Holidays and Semester Vacation Begin

SPRING SEMESTER
1971

January	18	Classes Resume
	22	Final Day for Late Registration and Change of Course
February	15	Washington's Birthday — Holiday
March	12	Study Day
	17	End of Third Quarter
April	8	Easter Holidays Begin
	19	Classes Resume
May	10-15	Senior Examinations (Including Saturday, May 15)
	17-21	Semester Examinations
	22	Baccalaureate Mass — Class Day Exercises
	23	Commencement

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THE UNIVERSITY

The University of Scranton is an urban, liberal arts college conducted by the Jesuit Fathers. It was founded as St. Thomas College in 1888. Its University Charter was received in 1938 and in 1942 it became the twenty-fourth of the twenty-eight Jesuit Colleges and Universities.

The University is located in the city of Scranton, in Northeastern Pennsylvania, which is a focal point of the interstate highway system. It is less than three hours driving time from New York City and Philadelphia. Within easy travel distance are the beautiful Pocono Mountains and the Susquenhanna River resorts with countless streams, lakes and magnificent scenery.

This bulletin offers a cordial invitation to visit the campus of the University and to talk with faculty members and administrators. Arrangements for your visit may be made at the Office of the Director of Admissions. (Phone: 717—347-3321)

UNIVERSITY O

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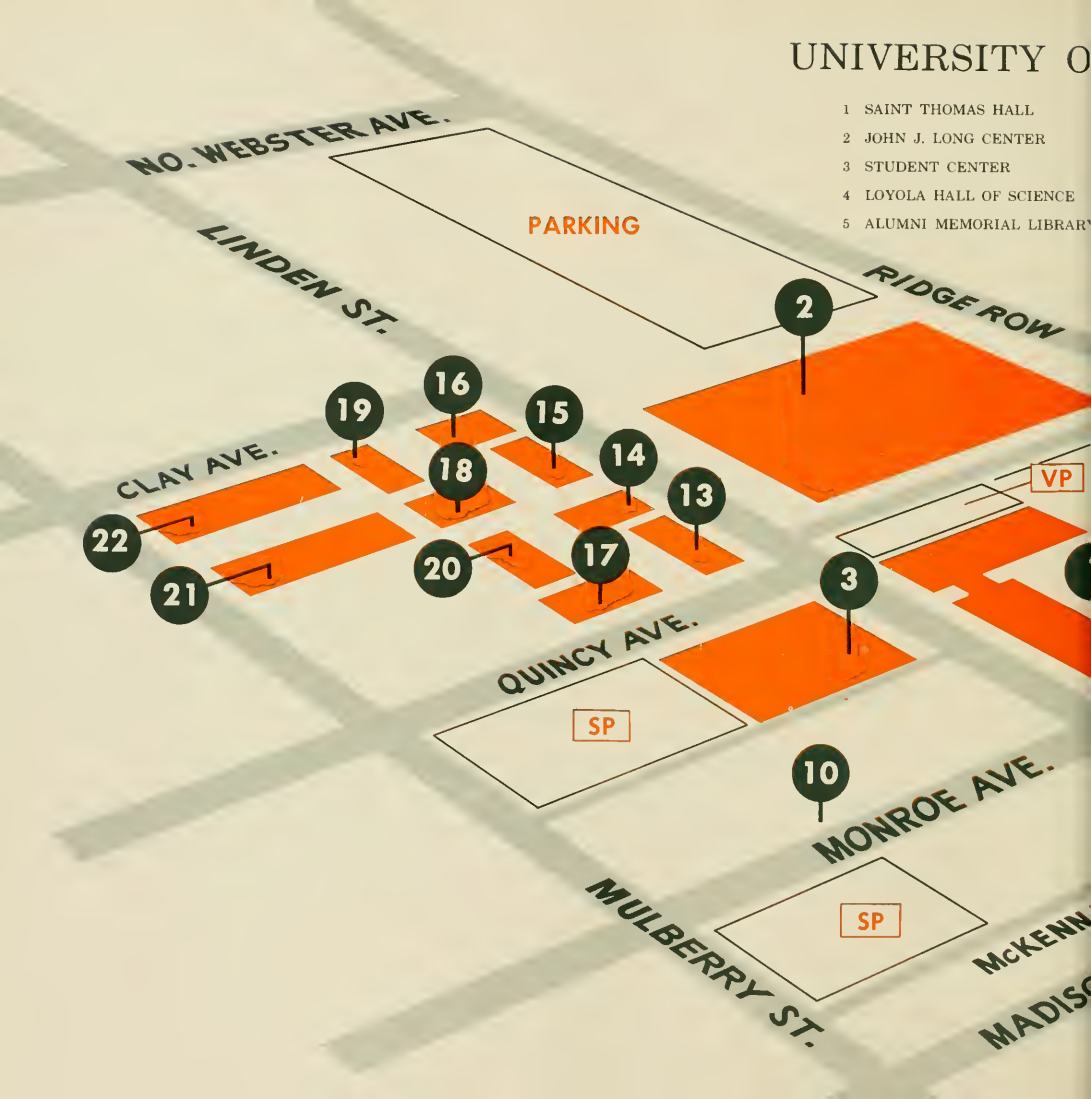

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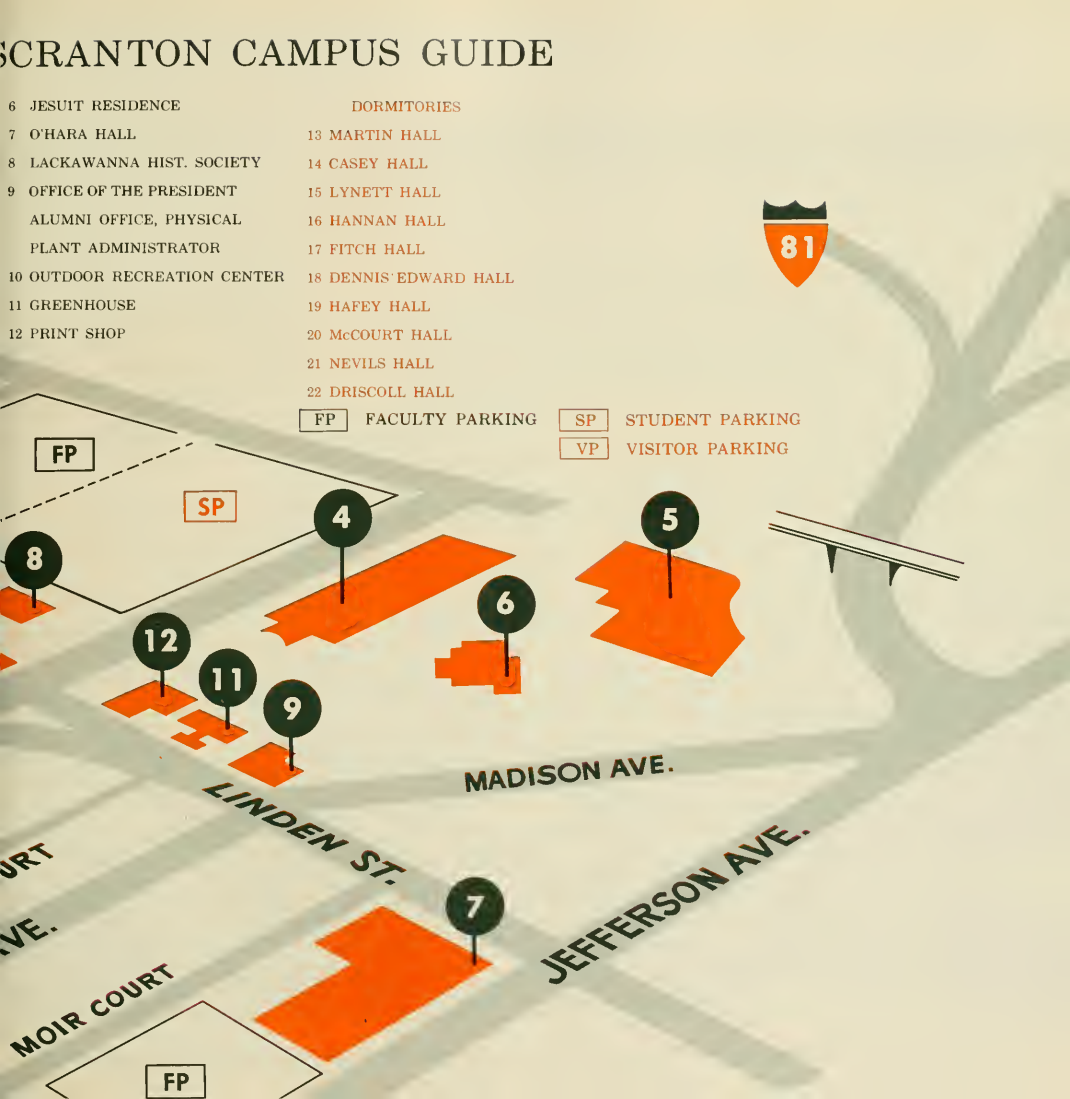
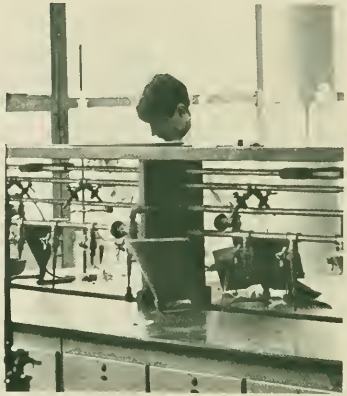


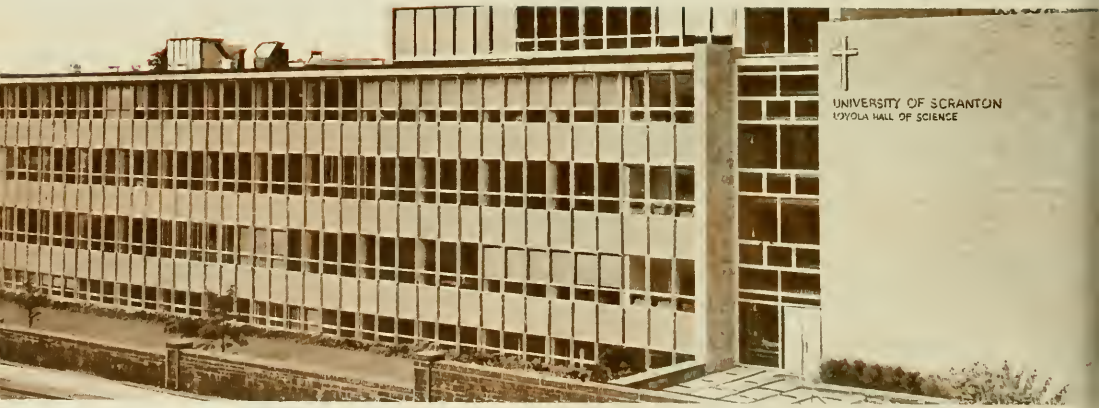
ALUMNI MEMORIAL LIBRARY

The Alumni Memorial Library is a striking presentation of advanced functional architectural planning. In bright, air-conditioned surroundings, students find ideal accommodations for concentrated study and research. It features a science reference room and seminar rooms for the presentation and discussion of projects in specialized fields. The library contains over 130,000 volumes and 850 periodicals.

LOYOLA HALL OF SCIENCE

This building provides the highly specialized equipment necessary for the study of engineering, physics, chemistry, biology and experimental psychology. WUSV —FM, the University's radio station, has facilities in this building.





SAINT THOMAS HALL

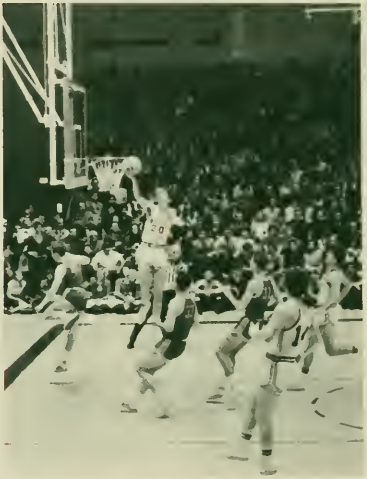
This building contains classrooms, language laboratories, the computer center, faculty and administrative offices. St. Ignatius Chapel is also located in Saint Thomas Hall.

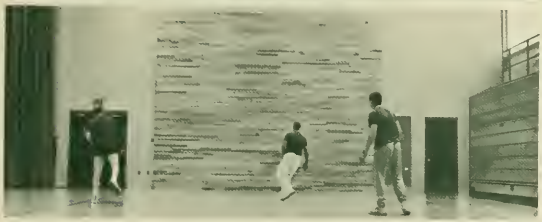
STUDENT CENTER

The Student Center has become a popular meeting place for all members of the University family. Its facilities include an auditorium, cafeteria and snack bar, faculty and student lounges, rifle range and game room. The offices of the Director of Student Personnel, Dean of Men, Student Government and student activities are located in this building.

JOHN J. LONG CENTER

Completed in 1968, this three-level, multi-purpose structure has enabled the University to broaden its program of physical Education. It includes a 22,820 square foot main floor area and provides specialized facilities for such activities as wrestling, weight lifting, handball, tennis and golf. It houses numerous faculty offices and conference rooms as well as a physical therapy room and sauna.





Wilson
Wilson
Wilson

O'HARA HALL

This six story structure contains classrooms for business administration students. Faculty offices and laboratories are also located in this building.

THE STUDENT

STUDENT SERVICES

STUDENT PERSONNEL — THE DIRECTOR in cooperation with his staff members directs the various student services, plans and coordinates all activities and services in non-instructional areas: e.g. housing, health, activities, food services, religious services, placement. THE DEAN OF MEN has a special responsibility for assisting students in the Residence Halls and providing assistance in the areas of student conduct.

CHAPLAIN — A characteristic of Jesuit education is the Chaplain. He and his assistant direct the spiritual activities of the University and its various religious organizations. He is, in a special sense, the student's friend and advisor in religious matters and personal concerns.

COUNSELING CENTER — Staffed by professionally trained personnel, this department serves the students, the Chaplain, the faculty and the administration. It provides counseling service on educational, vocational and personal matters. Students are tested and counseled on their aptitude for college work, study habits, their correct placement in the curriculum, and their reading techniques.

READING CLINIC — To assist students in correcting reading weaknesses and improving proper skills, the University's Reading Clinic is made available. A non-credit Developmental Reading course is offered. It concentrates on such areas as comprehension, word attack, speed, critical reading and analysis, research and study techniques.

ADVANCED STUDY ADVISORY OFFICE — This office exists to encourage and advise seniors seeking admission and/or financial aid to graduate and professional schools, to keep students posted on test deadlines, admission deadlines and other pertinent data, and to type letters of recommendation to graduate and professional schools. The Advanced Study Advisor also acts as Pre-Legal Advisor, campus representative for the Woodrow Wilson Foundation, the Danforth Foundation and the Fulbright Programs.

PLACEMENT BUREAU — Undergraduates and alumni are given every possible assistance in finding satisfactory employment when they register with the University Placement Bureau. Officers of large corporations arrange through the Bureau to visit the University to interview seniors for positions with their organizations.

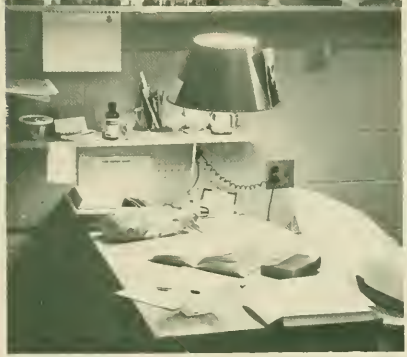
INTERNATIONAL SERVICES ADVISOR — The University of Scranton welcomes foreign students to the University to help them in their scholastic endeavors and to bring to American students occasion for personal acquaintance with other cultures. The International Services Advisor is appointed to help in the orientation and guidance of foreign students. At present, students from Japan, Pakistan, Canada, Italy, Malaysia, India, as well as from South America, attend the University.

RESIDENCE HALLS

Residence halls for out-of-town students are provided on campus. All such students will be obliged to live in these residences. An exception to this requirement will be made in the case of those out-of-town students who are married or veterans, or who live with relatives within commuting distance, or who have grave financial need. Permission to live outside the residence halls must be obtained from the Dean of Men before the beginning of the school year. Anyone who moves off-campus without the permission of the Dean of Men will not be allowed to attend classes.

Two Resident Student plans are offered. The basic plan provides living quarters, breakfast and dinner at $455 per semester. An optional plan provides three meals on each class day and brunch and dinner on weekends and mid-week holidays. This three-meal plan costs $515 per semester. Both plans include nursing service for emergency and short-term care in the infirmary.

Residence Hall fees should be paid in advance either by the semester or for the full year. Inquiries about residence halls should be made to the DEAN OF MEN.



Upperclassmen desiring to reserve space in one of the residence halls must make a room reservation deposit of $50.00 before May 1. This deposit is not refundable but is applicable to room and board.

Fees listed for residence facilities do not cover the times of calendar vacations. Students are expected to vacate their rooms at these times.

Incoming resident students are required to pay a $25.00 room damage fee. The room damage fee will be paid only once by each resident student and will be refunded in full (or in part if any claims are made against the fee) upon the student's graduation or official withdrawal from school.

GENERAL REGULATIONS

The educational philosophy of the College includes as one of its most important goals the formation of character. For this reason, discipline, while considerate and largely a matter of student morale, is firm, especially when the reputation of the student body and the College is concerned.

The College reserves the right to take appropriate disciplinary action in the case of any student who conducts himself contrary to the standards of the College. These standards are given clear expression in the student handbook.

Matters of discipline and student conduct are supervised by the Dean of Men. Serious breaches of the norms for student conduct, however, may be referred to the Student Court which is composed of five students and four faculty members. In such cases, the student is provided with a clear statement of the charges, the right to counsel for his defense, the right to present witnesses, and a completely fair hearing. Final disposition of such cases is made by the President of the University after receiving the verdict and recommendations of the Student Court. Even then, the student has the right to appeal to the President. The University, however, maintains the reserved right to "dismiss at any time."

ABSENCE AND LATENESS. Freshmen are limited by University regulation to twice as many absences as credits are given for a particular course. Upperclassmen have no limitation on absences unless such a limitation is promulgated in writing by a particular teacher or department.

Upperclassmen on the Dean's List are permitted unlimited absences.

Any student whose absences are limited by the University or by particular policy and who exceeds this limitation, is liable to receive a WF for the course.

All absences, for whatever reasons, are covered by the above regulations.

This policy does not alter the students' responsibility for timely completion of course requirements.

PROPER ATTIRE. The University asks students of the College of Arts & Sciences to be well groomed and to attend classes attired in a manner appropriate to gentlemen who are preparing for professional careers. Individual departments of the University and administrative officials may give specific interpretations of what constitutes good grooming and appropriate attire for their professional fields and offices.

GRADING SYSTEM

Grading is a measure of the student's mastery of a select body of knowledge contained in a specific course. The basis for judging includes written and oral quizzes, term papers, book reports, participation in class discussion and examinations. A final comprehensive examination is ordinarily given in each course.

Grade reports are mailed to the parent(s) or guardian of all students at the end of each semester and these become part of the official record of the student. The parent(s) or guardian of Freshmen receive mid-semester grades to inform them of the progress of the student. The parent(s) or guardian ot Upper-class students receive notice at the quarter of students who are "deficient" and in danger of failing the course.

OFFICIAL MARKING SCALE

A	Excellent (Outstanding and/or original work)
B, B+	Very Good, above average work
C, C+	Satisfactory (Average, but not outstanding work)
D, D+	Unsatisfactory (passing but below average)
F	Failure (below minimum acceptable standards)
W	Withdrew officially during first quarter.
WP	Withdrew officially during second quarter with passing grade.
WF	Withdrew officially during second quarter with failing grade computed in the Q.P.I. as an F.
I	Incomplete-must be removed within three weeks.
S	Satisfactory } not figured in Quality Point Index
U	Unsatisfactory } not figured in Quality Point Index
Audit	Course not taken tor credit. (Change to Audit can be made only by passing students.)

The grades **B+, C+, D+** are used to define more sharply academic achievement of the student.

INCOMPLETE: If a course has not been completed because of illness or some other serious reason, an Incomplete may be given. To remove this grade, the student must satisfy all course requirements within three weeks after the end of the semester. Any course not completed by this time will result in a grade of F.

OFFICIAL WITHDRAWAL FROM A COURSE

A student wishing to withdraw from a particular course should complete the form which is available at the Registrar's Office.

CREDITS AND THE SEMESTER HOUR

One credit or semester hour represents one lecture period of 50 minutes per week. Two or more hours of laboratory work are equivalent to one lecture hour.

QUALITY POINTS AND QUALITY POINT INDEX

Another standard used in judging a student's performance is determined on the basis of **Quality Points** as follows: Each semester hour of credit with a grade of A is valued at 4 quality points; B+ at 3.5 quality points; B at 3.0; C+ at 2.5; C at 2.0; D+ at 1.5; D at 1.0. An F or WF (withdrawn failing) yields no quality points. Thus, for example, a three-credit course with the grade A yields 12 quality points; a B yields 9; a C yields 6

The Quality Point Index (or Quality Point Average) commonly abbreviated Q.P.I. (or Q.P.A.) is computed by dividing the total number of Quality Points earned by the total number of credits attempted. For example, 15 credits hours, all at C grade, would earn 30 Quality Points or a 2.0 Q.P.I. (30 ÷ 15).

The total number of credit hours attempted include those courses with final grade F or WF as well as A, B, etc. Notice this Quality Point Index applies only to courses taken at the University of Scranton and is not affected by credits transferred from other colleges.

A Quality Point Index listing is made at the end of each semester. On the basis of his cumulative Point Index, a student's rank in class and his eligibility for honors at graduation are determined

QUALITATIVE REQUIREMENTS

To graduate from the University of Scranton or to remain as a student in good standing, a Quality Point Index of 2.0 (C grade average) is required

PROBATION AND DISMISSAL

One semester of probation is granted to students whose QPI falls below 2.0. A second semester of probation will be granted only occasionally when the results of the first probationary semester indicate that the student can and will return to good standing in one more semester. Students who receive an F while on probation are dismissed, as is any student who incurs 3 F's in one semester. Probation may not be removed during summer school.

Students must obtain a passing grade in all required courses before graduation. F's remain on the student's record.

Detailed information on probation and dismissal is contained in the Student Handbook.

DEGREE REQUIREMENTS

In order to earn a Bachelor's Degree from the College of Arts & Sciences, the student must complete all the courses prescribed in the curriculum tables (pages 33 to 48). No student will be eligible for graduation who has not removed all failures in required courses or who has not earned the necessary 2.0 (C average) Quality Point Index.

RECOMMENDATIONS AND GRADUATION HONORS

Favorable recommendations for the purpose of post-baccalaureate studies will not be issued by the Univeristy to any student who does not maintain a Quality Point Index of 2.5 or better in his major field.

To be eligible for **graduation honors,** a student must have completed a minimum of 100 credit hours of work at the University of Scranton.

HONOR AVERAGES:

Summa Cum Laude	3.85 Quality Point Index in all subjects
Magna Cum Laude	3.60 Quality Point Index in all subjects
Cum Laude	3.30 Quality Point Index in all subjects

These requirements went into effect with the Freshman Class of 1967-68. For all previously enrolled, former requirements will remain in effect.

DEAN'S LIST

To be eligible for the Dean's List, the student must carry a full program (12 credits minimum). A grade of B or better must be earned in each subject. Names of those on the Dean's List are published each semester.

WITHDRAWAL FROM THE COLLEGE OF ARTS & SCIENCES

A student who wishes to withdraw from the College of Arts & Sciences will be granted an **honorable** dismissal under the following conditions:

1) He must not be liable to dismissal for academic deficiencies, excessive absences or misconduct.
2) He must discuss his intention with the Dean and, if so instructed, must submit a request for withdrawal from his parent(s) or guardian.
3) He must have settled all financial accounts with the University.
4) He must return his ID card to the Student Personnel Office.

The University reserves the right to modify the requirements regarding admission; the right to cancel any course for which there is insufficient registration; change the arrangement of courses, the requirements for graduation, degrees, tuition, fees and other regulations affecting the student body. Such regulations shall govern both those presently enrolled and new students and shall be effective whenever determined by the University.

CO-CURRICULAR ACTIVITIES
In the College of Arts and Sciences

In accord with the University of Scranton's objective: to form the truly free person, the student must have the occasion to grow in responsibility, to meet and deal with his fellow students, and develop a spirit of cooperation and interest in others.

It is the purpose of the many activities at the University to aid the student to grow and develop to the fullest of his potential

Co-curricular activities offer social, recreational and other opportunities, which bring life to the campus and interest and variety to student life.

STUDENT GOVERNMENT

The University recognizes and supports strong student participation in the community through student government processes that enable the individual to gain respect for the laws of his society, to exercise his freedom and responsibility, and to strive for excellence.

The authority of the Student Government is delegated to it by the Board of Trustees through the action of the President and is expressed in a Constitution approved by the Student Body and President. The Student Body President, Vice President and Chief Justice, all popularly elected each spring, head the three branches of Student Government. Many responsible positions are afforded in the Student Body President's Cabinet, Student Congress and Student Court.

Each class elects a Class Council, composed of officers and senators of the class and charged with the responsibility of organizing and structuring the social life of the Student Body and other areas of class life.

Student activities are coordinated by the Association of Campus Organizations.

COMMUNITY SERVICE CLUBS

CIRCLE K

A campus chapter of Circle K, the student branch of Kiwanis International, is active at the University of Scranton. The University organization conducts meetings and undertakes service projects in the greater Scranton area. Several events are held each year in cooperation with a regional Kiwanis Club Chapter.

FATIMA PROJECT

This student organization has taken a special interest in the children of a Northeastern Pennsylvania home for orphans. Children at the institution are treated to weekly activities, parties, plays, motion pictures, trips and outings.

PEOPLE HELP PEOPLE

People Help People is a voluntary student organization formed by students to help alleviate community problems in Lackawanna County. Students participate in programs for tutoring in local areas, helping the mentally retarded or mentally disturbed and aid in recreational activities.

RELIGIOUS ORGANIZATIONS

As a Catholic institution, the University's aware of man's need to express his worship of God and to do so in the spirit of a community. The University offers Catholic students the opportunity for Sunday and daily Mass and other religious services. For the spiritual growth and development of the student, retreats of various types are offered throughout the year.

SWORDSMEN SODALITY

The oldest co-curricular organization, dealing with the spiritual welfare of the student body, is the Swordsmen Sodality The demands of the organization are high, but through his participation, the student will be made vitally aware of his role in the life of the Mystical Body and prepared to lead a Catholic life in the contemporary world.

KNIGHTS OF COLUMBUS

A college chapter of the Knights of Columbus exists on campus. Numerous projects and activities fill out the K of C schedule during the academic year.

ACTIVITIES

THE UNIVERSITY PLAYERS

This club annually presents two productions — one in the late fall and another in the early spring. The Players also participate in the One-Act Play Contest for Jesuit Colleges.

NOEL CHABANEL COUNCIL OF DEBATE

The debating society is the University's representative to Intercollegiate Debate Tournaments. Weekend trips to major campuses all over the East, the University's own Intercollegiate Tournament, and coaching of area high school debates form the nucleus of club activities.

CULTURAL SERIES

Each year, noted speakers in political, social and cultural areas are invited to speak on campus. The William W. Scranton Institute of Public Affairs, begun in 1968, featured Senator Percy. Concerts, both classical and contemporary, and art exhibits are regularly scheduled.

FILM SEMINAR

The showing of films noted for their art, technical and productional achievements is part of the Film Seminar's annual program. Faculty student discussions, often with representatives of the motion picture industry, follow the screenings.

THE UNIVERSITY SINGERS

The Singers bring the musical voice of the University to other college campuses and high schools, as well as performing at campus events.

PUBLICATIONS

The University offers a wide choice of journalism opportunities. The **Aquinas** is the campus newspaper and positions are available to members of all classes. The **Esprit** presents the student opinon of the campus in fine literary form. **Espirit** is the award-winning campus literary journal. History students have the opportunity to have their articles published in **Retrospect.** The yearbook, **Windhover,** is annually produced by the students. Political Science students publish **COSMOS.**

The University also has a diverse collection of clubs, each associated with a particular sphere of interest They include:

CAMPUS CLUBS

Association of the U.S. Army — Art Club — Aviation Club — Biology Club — Business Club — Chemistry Club — Classics Club — Dag Hammarskjold Society — Deutcher Kreis — Economics Club — Engineers Club — LeCercle Francais — Mathematics Club — Philosophy Club — Physics Club — Political Science Club — Psychology Club — Royal Historical Society — Royal Rifles — ROTC Commandos — Social Science Club — Society for The Advancement of Management — Veterans Club — Young Americans for Freedom — Young Democrats — Young Republicans.

ATHLETICS

INTERCOLLEGIATE SPORTS

The University is a member of the National Collegiate Athletic Association; the Eastern Collegiate Athletic Association; the Middle Atlantic Conference and the Middle Eastern College Athletic Association. A complete program of intercollegiate sports is directed by the University Athletic Department.

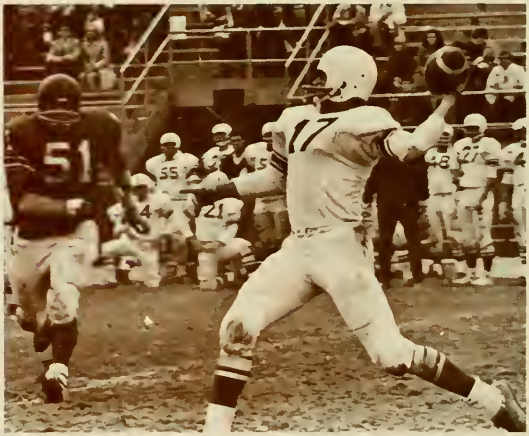
Basketball		Golf
Baseball	Wrestling	Soccer
Tennis	Cross Country	Rifle Team

CLUB FOOTBALL

A very active Club Football team also exists at the University of Scranton. Scheduled for Fall 1970 are games with such schools as Canisius, St. Francis, Steubenville, Kings, Patterson State and St. Vincent.

INTRAMURALS

A year-long intramural program is in operation both in the John J. Long Center and outdoors.



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HONOR SOCIETIES

ALPHA SIGMA NU

An international Honor Society, with chapters in 27 Jesuit colleges and universities throughout the United States and Canada. Juniors and Seniors who have distinguished themselves in scholarship, loyalty and service are eligible for this society. Selection is made by the President of the University on the recommendation of the Dean and Chapter members of the Society.

PHI ALPHA THETA

National Honor Society in History. For majors in History and Political Science. Basic requirements: 12 credits in History; Quality Point Index-General 3.0, 3.1 in History. Chapter members select new inductees. Founded in 1921; the largest honor society in America, with the strictest departmental requirements.

DELTA MU DELTA

National Honor Society in Business Administration. Basic requirements: A Quality Point Index of 3.2 or better for undergraduate students and 3.25 or better for graduate students, with a major in Business Administration or Accounting.

SIGMA PI SIGMA

National Honor Society in Physics. Its chapters are restricted to colleges and universities of recognized standing which offer a strong physics major. The University of Scranton Chapter receives into membership undergraduate and graduate students. Students elected to membership must attain high standards of general scholarship, outstanding achievement in physics, and show promise of professional merit. A 3.2 Quality Point Index is required for induction.

OMICRON DELTA EPSILON

National Honor Society in Economics. Basic requirements: 12 credit hours in Economics with a General Quality Point Index of 3.0 and a 3.0 average in Economics.

PSI CHI

National Honor Society in Psychology. Founded in 1931, it has established chapters in 260 colleges and universities in 47 states. About 45% of its active members are undergraduates majoring or minoring in psychology. The remaining members are psychology graduate students and faculty members. A high standard of academic achievement is expected of all members.

PI GAMMA MU

National Honor Society in Social Science. Founded in 1924; purpose is to improve scholarship in the social sciences and to encourage inter-disciplinary study. Basic requirements: at least 20 credit hours in social science; Quality Point Index of 3.0.

THE ACADEMIC PROGRAM

DEGREE PROGRAMS

The College of Arts and Sciences of the University of the University of Scranton offers six basic programs for the undergraduate student, leading to the A.B. or B.S. degrees. They are:

Liberal Arts
Social Sciences
Natural Sciences
Pre-Engineering
Business Administration
Secondary Education

Programs leading to the A.B. degree traditionally endeavor to bring the student to a deeper knowledge and appreciation of Western culture through the study of literature, philosophy, language and history. In addition to other courses, A.B. degree candidates are introduced to Masterworks of Western Literature and must complete advanced foreign language studies.

Programs leading to the B.S. degree seek to give the student a basic competence in the natural or behavioral sciences.

The University has a cooperative agreement with Marywood College which makes a broader choice of courses and majors possible. Interested students should consult the Dean of Studies.

CHOICE OF MAJOR

All freshmen pursue the same basic studies, with the exception of one course peculiar to the curriculum chosen. This provides flexibility, enabling the freshman student to change from one curriculum to another with the least loss of credit. Freshmen unable to determine a choice of major or who wish to change their major should consult with the Counseling Center. Students preparing for law school are usually advised to pursue studies in English, history, political science, economics or accounting.

CURRICULUM REQUIREMENTS

Each student in the College of Arts & Sciences is required to

major in one particular curriculum and to fulfill 24 credits minimum to classify as a major in this curriculum (a double major is not permitted). In addition, 12 other elective credits may be chosen in related fields from upper-division courses. In some majors, the Departments will determine what electives should be chosen. In all majors, the student should seek the counsel of his Department regarding choice of electives. With the approval of the Department, students may take basic courses in sociology, psychology, economics, accounting, etc., as electives. Advanced ROTC and Education courses are not permitted as electives.

Non-Catholic students are not required to take Theology courses but may do so if they wish. However, in place of theology, they are required to make up 12 credits of electives, which will usually consist of general background and cultural courses rather than additional courses in their majors.

Credit loads in excess of the number in each curriculum will require the written permission of the Dean of the College of Arts & Sciences.

HISTORY REQUIREMENT

In a curriculum where only one year of history is required, the student may choose History of the United States (History 1 & 2) or Europe, 1500 to the Present (History 3 & 4).

NATURAL SCIENCE REQUIREMENT

One year of Natural Science is required for all non-science majors. To satisfy this requirement, the student may choose either General Biological Science (Biology 3 & 4), Elements of Chemistry-Foundations of Physical Science (Chemistry 3 & Physics 3), or Foundations of Physical Science-Elements of Geo-Physics (Physics 3 & 4), a course specified by a particular Department. The four course, fourteen credit Natural Science sequence (NS 1, 2, 3, 4) for which some students are chosen fulfills the mathematics and natural science requirements. (Please confer Page 52)

LANGUAGE REQUIREMENTS FOR A.B. AND B.S. DEGREES

The A.B. student must complete two semesters (6 credits) of advanced foreign language. The B.S. student is required to take two semesters of intermediate foreign language. Languages available are Latin, Greek, Spanish, French German, Italian and Russian.

The CEEB Achievement Tests will be used as a placement instrument for students who have completed 2 years or more of a modern foreign language in high school. The department will place the student either in an elementary course (for which no college credit is given), in a regular or special intermediate course, or in an advanced course.

If a student wishes to study a foreign language different from that taken in high school to fulfill his college language requirement, he must complete the elementary and intermediate levels for the B.S. requirement and also the advanced for the A.B. requirement. The elementary 6 credits thus taken do not substitute for an elective course.

A.B. students desiring to take a second language may do so, substituting it for Math 7 & 8 in freshman year and English 131 & 132 in sophomore year, or as an elective. Students desiring language study beyond the requirements for an A.B. or B.S. degree may choose another language as an elective.

DEGREE PROGRAMS IN THE LIBERAL ARTS

Candidates for a Bachelor of Arts Degree may select a program emphasizing the classical tradition of Greece and Rome or one characterized by a more intense study of a modern foreign language. A.B. candidates (except Economics) may substitute a second language for Math 7 & 8, English 131 & 132. A.B. candidates in Economics, Sociology, Psychology substitute introductory courses in these subjects for History 1 & 2 in sophomore year. Math majors substitute Math 21-22 in sophomore year in place of History 1 & 2, which will be taken in Junior year. Confer page 35 for natural science requirements.

BACHELOR OF ARTS

Majors in Classical Languages, English, Modern Language, Mathematics, History, Political Science, Economics, Sociology, Psychology, Philosophy

Department and No.	Descriptive Title of Course	Credits Fall	Credits Spring
	Freshman		
English 5	Expository Writing	3	
English 6	Introduction to Literature		3
History 3-4	Europe, 1500 to Present	3	3
Theology 5	Introduction to Religion	3	
Language 23-24	Intermediate Language	3	3
Mathematics 7-8	Finite Mathematics	3	3
or	or		or
Mathematics 13-14	Freshman Mathematics - Analysis I	4	4
Physical Education 1-2	Basic Physical Education	1	1
		16-17	13-14
	Sophomore		
Philosophy 23-24	Philosophical Anthropology	3	3
English 21	English Literature, 450-1800	3	
English 22	English Literature, 1800 to Present		3
History 1-2	History of the United States	3	3
Language	Advanced Language Elective	3	3
English 131-132	Masterpieces of World Literature	3	3
Theology 23	Theology of the Church	3	
Physical Education 23-24	Advanced Physical Education	1	1
		19	16
	Junior		
Philosophy 110	Philosophy of Human Conduct	3	
Philosophy	Ethics Elective		3
Electives	Major Field	6	6
Science	Science Electives	3	3
Electives	Electives	3	3
		15	15
	Senior		
Philosophy	Philosophy Electives	3	3
Theology	Theology Electives	3	3
Electives	Major Field	6	6
Electives	Electives	3	3
		15	15

Total: 124-126 credits

DEGREE PROGRAMS IN THE SOCIAL SCIENCES

Department and No.	Descriptive Title of Course	Credits Fall	Credits Spring
	Freshman		
English 5	Expository Writing	3	
English 6	Introduction to Literature		3
Mathematics 7-8	Finite Mathematics	3	3
or	or	or	
Mathematics 13-14	Freshman Mathematics - Analysis I	4	4
Language 23-24	Intermediate Language	3	3
History 3-4	Europe, 1500 to the Present	3	3
Theology 5	Introduction to Religion	3	
Physical Education 1-2	Basic Physical Education	1	1
		16-17	13-14
	Sophomore		
Philosophy 23-24	Philosophical Anthropology	3	3
English 21	English Literature, 450-1800	3	
English 22	English Literature, 1800 - Present		3
History 1-2	History of the United States	3	3
Economics 23-24	Principles of Economics	3	3
Sociology 21-22	Principles of Sociology - Social Problems	3	3
Theology 23	Theology of the Church	3	
Physical Education 23-24	Advanced Physical Education	1	1
		19	16
	Junior		
Philosophy 110	Philosophy of Human Conduct	3	
Philosophy	Ethics Elective		3
Science	Science Electives	3	3
Electives	Major Field	6	6
Electives	Electives	3	3
		15	15
	Senior		
Philosophy	Philosophy Electives	3	3
Theology	Theology Electives	3	3
Electives	Major Field	6	6
Electives	Electives	3	3
		15	15

Total: 124-126 credits

BACHELOR OF SCIENCE
SOCIAL SCIENCE
Majors in History, Political Science, Sociology, Economics

BACHELOR OF SCIENCE

SOCIAL SCIENCE MAJOR IN PSYCHOLOGY

Department and No.	Descriptive Title of Course	Credits Fall	Credits Spring
	Freshman		
English 5	Expository Writing	3	
English 6	Introduction to Literature		3
Mathematics 7-8	Finite Mathematics	3	3
or	or	or	
Mathematics 13-14	Freshman Mathematics – Analysis I	4	4
Language 23-24	Intermediate Language	3	3
History 3-4	Europe, 1500 to the Present	3	3
Theology 5	Introduction to Religion	3	
Physical Education 1-2	Basic Physical Education	1	1
		16-17	13-14
	Sophomore		
Sociology 21-22	Basic Sociology – Social Problems	3	3
English 21	English Literature, 450-1800	3	
English 22	English Literature, 1800 - Present		3
Philosophy 23-24	Philosophical Anthropology	3	3
Psychology 23	Fundamentals of Psychology	3	
Psychology 24	Psychological Statistics I		3
Biology 107	Anatomy & Physiology	3	
Biology 106	Principles of Heredity		3
Physical Education 23-24	Advanced Physical Education	1	1
Theology 23	Theology of the Church	3	
		19	16
	Junior		
Philosophy 110	Philosophy of Human Conduct	3	
Philosophy	Ethics Elective		3
Psychology 140	Personality Adjustment	3	
Psychology 145	Abnormal Psychology		3
Psychology 141	Psychological Testing	3	
Psychology 144	Psychology of Development		3
Psychology 142-143	Experimental Psychology	3	3
Psychology 150-151	Proseminar	3	3
		15	15
	Senior		
Philosophy	Philosophy Electives	3	3
Theology	Theology Electives	3	3
Psychology 147	Physiological Psychology	3	
Psychology 148	Social Psychology		3
Psychology 146	Psychological Statistics II	3	
Electives	Electives	3	6
		15	15

Total: 124-126 credits

DEGREE PROGRAMS IN THE NATURAL SCIENCES

BACHELOR OF SCIENCE
MAJOR IN BIOLOGY

Preprotessional preparation meeting all requirements and recommendations of professional schools (medicine, dentistry, veterinary medicine)

Department and No	Descriptive Title of Course	Credits Fall	Credits Spring
	Freshman		
English 5	Expository Writing	3	
English 6	Introduction to Literature		3
Mathematics 13 14	Freshman Mathematics - Analysis I	4	4
Language 23-24	Intermediate Language	3	3
Theology 5	Introduction to Religion	3	
Chemistry 11-12	General and Analytical Chemistry	4	4
Physical Education 1 2	Basic Physical Education	1	1
		18	15
	Sophomore		
Philosophy 23-24	Philosophical Anthropology	3	3
English 21	English Literature, 450-1800	3	
English 22	English Literature, 1800 - Present		3
Biology 1-2	General Biology	4	4
Chemistry 101 102	Organic Chemistry I-II	4	4
Theology 23	Theology of the Church		3
Physical Education 23 24	Advanced Physical Education	1	1
		15	18
	Junior		
Philosophy 110	Philosophy of Human Conduct	3	
Philosophy	Ethics Elective		3
Physics 1-2	General Physics	4	4
Chemistry 120	Physical Chemistry Fundamentals	4	
Biology 21-22	Comparative Vertebrate Anatomy	4	4
Sociology 22	Social Problems		3
		15	14
	Senior		
Philosophy	Philosophy Electives	3	3
History 1-2	History of the United States	3	3
or	or		or
History 3-4	Europe, 1500 to the Present	3	3
Theology	Theology Electives	3	3
Biology 105 103	Histology-Embryology	4	4
Biology	Biology Electives	4	4
		17	17

Total: 129 credits

BACHELOR OF SCIENCE MAJOR IN CHEMISTRY

Department and No	Descriptive Title of Course	Credits Fall	Credits Spring
	Freshman		
English 5	Expository Writing	3	
English 6	Introduction to Literature		3
Mathematics 13-14	Freshman Mathematics — Analysis I	4	4
Theology 5	Introduction to Religion	3	
Language 23-24	Intermediate Language	3	3
Chemistry 11-12	General and Analytical Chemistry	4	4
Physical Education 1-2	Basic Physical Education	1	1
		18	15
	Sophomore		
Philosophy 23-24	Philosophical Anthropology	3	3
Chemistry 101-102	Organic Chemistry I-II	4	4
Mathematics 21-22	Analysis II - Analysis III	4	4
Physics 11-12	Elements of Physics	4	4
Theology 23	Theology of the Church		3
Physical Education 23-24	Advanced Physical Education	1	1
		15	19
	Junior		
Philosophy 110	Philosophy of Human Conduct	3	
Philosophy	Ethics Elective		3
Chemistry 103-125	Organic Chemistry III - Instrumental Analysis	4	4
Chemistry 123-124	Physical Chemistry I-II	4	4
English 21	English Literature, 450-1800	3	
English 22	English Literature, 1800-Present		3
Chemistry 127-128	Chemical Literature - Seminar	1	1
		15	15
	Senior		
Philosophy	Philosophy Electives	3	3
History 1-2	History of the United States	3	3
or	or	or	
History 3-4	Europe, 1500 to the Present	3	3
Theology	Theology Electives	3	3
Electives	Electives (including Chemistry)	6	6
		15	15

Total: 128 credits

BACHELOR OF SCIENCE
MAJOR IN
PHYSICS

Department and No.	Descriptive Title of Course	Credits Fall	Credits Spring
	Freshman		
English 5	Expository Writing	3	
English 6	Introduction to Literature		3
Mathematics 13-14	Freshman Math-Analysis I	4	4
or	or	or	
Mathematics 14 21	Analysis 1 - Analysis II	4	4
Physics 11-12	Elements of Physics	4	4
Language 23-24	Intermediate Language	3	3
Theology 5	Introduction to Religion	3	
Physical Education 1-2	Basic Physical Education	1	1
		18	15
	Sophomore		
Philosophy 23-24	Philosophical Anthropology	3	3
English 21	English Literature, 450-1800	3	
English 22	English Literature, 1800-Present		3
Physics 21-22	Elements of Modern Physics-Thermodynamics	4	3
Mathematics 21-22	Analysis II-Analysis III	4	4
or	or	or	
Mathematics 22-101	Analysis III - Differential Equations	4	4
Theology 23	Theology of the Church		3
Physical Education 23-24	Advanced Physical Education	1	1
		15	17
	Junior		
Philosophy 110	Philosophy of Human Conduct	3	
Philosophy	Ethics Elective	3	3
Science	Science Electives	3	3
Physics 104-105	Electricity and Magnetism I-II	4	4
Physics 102-110	Mechanics-Atomic Physics	3	4
Mathematics 106-107	Advanced Calculus	3	3
or	or	or	
Math 101 - Physics 118	Differential Equations - Math Physics I	4	4
		19-20	17-18
	Senior		
Philosophy	Philosophy Electives	3	3
Physics 111-123	Nuclear Physics-Advanced Mechanics	3	3
Physics 121	Undergraduate Physics Research	1	1
Physics	Physics Electives	3	3
History 1-2	History of the United States	3	3
or	or	or	
History 3-4	Europe, 1500 to the Present	3	3
Theology	Theology Electives	3	3
		16	16

Total: 133-135 credits

BACHELOR OF SCIENCE
MAJOR IN MATHEMATICS

Department and No	Descriptive Title of Course	Credits Fall	Credits Spring
	Freshman		
English 5	Expository writing	3	
English 6	Introduction to Literature		3
Mathematics 14-21	Analysis I - II	4	4
Language 23-24	Intermediate Language	3	3
Theology 5	Introduction to Religion	3	
History 3-4	Europe, 1500 to the Present	3	3
Physical Education 1-2	Basic Physical Education	1	1
		17	14
	Sophomore		
Philosophy 23-24	Philosophical Anthropology	3	3
English 21	English Literature, 450-1800	3	
English 22	English Literature, 1800-Present		3
Physics 11-12	Elements of Physics	4	4
Mathematics 22-101	Analysis III - Differential Equations	4	4
Theology 23	Theology of the Church		3
Physical Education 23-24	Advanced Physical Education	1	1
		15	18
	Junior		
Philosophy 110	Philosophy of Human Conduct	3	
Philosophy	Ethics Elective		3
Physics 21-24	Elements of Modern Physics - Circuit Analysis	4	4
History 1-2	History of the United States	3	3
Electives	Mathematics or other (cf P. 70)	6	6
		16	16
	Senior		
Philosophy	Philosophy Electives	3	3
Theology	Theology Electives	3	3
Electives	Mathematics or other (cf P. 70)	9	9
		15	15

Total: 126 credits

BACHELOR OF SCIENCE
MAJOR IN ELECTRONICS

Department and No	Descriptive Title of Course	Credits Fall	Credits Spring
	Freshman		
English 5	Expository Writing	3	
English 6	Introduction to Literature		3
Mathematics 13-14	Freshman Math - Analysis I	4	4
or	or	or	
Mathematics 14-21	Analysis I - Analysis II	4	4
Physics 11 12	Elements of Physics	4	4
Language 23 24	Intermediate Language	3	3
Theology 5	Introduction to Religion	3	
Physical Education 1-2	Basic Physical Education	1	1
		18	15
	Sophomore		
Philosophy 23 24	Philosophical Anthropology	3	3
English 21	English Literature, 450-1800	3	
English 22	English Literature 1800-Present		3
Physics 21-Engr. 44	Elements of Physics-Circuit Analysis	4	4
Mathematics 21-22	Analysis II - Analysis III	4	4
or	or	or	
Mathematics 22-101	Analysis III-Differential Equations	4	4
Theology 23	Theology of the Church		3
Physical Education 23-24	Advanced Physical Education	1	1
		15	18
	Junior		
Philosophy 110	Philosophy of Human Conduct	3	
Philosophy	Ethics Elective		3
Science	Science Electives	3	3
Physics 104-105	Electricity and Magnetism I-II	4	4
Physics 118	Mathematical Physics		4
or	or	or	
Mathematics 101-Physics 118	Differential Equations - Mathematical Physics	4	4
Physics 106-107	Electronics Principles & Circuits I-II	4	4
		14-18	18
	Senior		
Philosophy	Philosophy Electives	3	3
Physics 108 109	Advanced Electronics-High Frequency Electromagnetic Waves	4	4
Engineering 101	Elements of Electrical Engineering	4	
Physics 103	Physical Optics and Waves		4
History 1-2	History of the United States	3	3
or	or	or	
History 3-4	Europe, 1500 to the Present	3	3
Theology	Theology Electives	3	3
		17	17

Total: 132-136 credits

PRE-ENGINEERING PROGRAM

The University provides a Pre-engineering Program which introduces the student to the highly technical training necessary for all phases of the engineering profession. This is a two-year course which enables the student to transfer to an engineering school to complete his degree work.

Of special importance is the University of Scranton's association with the Cooperative Engineering Program at the University of Detroit. For the student who has completed the pre-engineering curriculum at the University of Scranton, the three-year cooperative program offers alternate semesters of formal instruction and work experience in industry.

In addition to the valuable experience gained from industry, many students have been able to pay the cost of their tuition from the remuneration received for their work. This amounts to a substantial equivalent scholarship grant.

A student successfully completing this two year program is eligible to apply for an Associate Degree.

Department and No.	Descriptive Title of Course	Credits Fall	Credits Spring
	Freshman		
Engineering 3-4	Engineering Graphics I & II	2	2
Engineering 5-6	Digital Computer Programming I & II	1	1
Mathematics 14-21	Analysis I - Analysis II	4	4
Physics 11-12	Elements of Physics	4	4
English 5	Expository Writing	3	
English 6	Introduction to Literature		3
Theology 5	Introduction to Religion	3	
English 21	English Literature, 450-1800		3
Physical Education 1-2	Basic Physical Education	1	1
		18	18
	Sophomore		
Engineering 21-22	Engineering Mechanics - Statistics & Dynamics	4	4
Mathematics 22-101	Analysis III - Differential Equations	4	4
Physics 21	Elements of Modern Physics	4	
Engineering 44	Circuit Analysis		4
Chemistry 11-12	General and Analytical Chemistry	4	4
Physical Education 23-24	Advanced Physical Education	1	1
		17	17

Total: 70 credits

DEGREE PROGRAM IN COMPUTER SCIENCE

The Computer Science curriculum offers courses designed to meet the needs for training in computer science in many disciplines. The courses are designed to make the students aware of the many facets of computing.

Department and No.	Descriptive Title of Course	Credits Fall	Credits Spring
	Freshman		
English 5	Expository Writing	3	
English 6	Introduction to Literature		3
Language 23-24	Intermediate Language	3	3
History 3-4	Europe, 1500 to present	3	3
Mathematics 14-21	Analysis I-Analysis II	4	4
CMPSC 20-25	Computer Programming I-II	3	3
Physical Education 1-2	Basic Physical Education	1	1
		17	17
	Sophomore		
CMPSC 100-101	Assembler & Systems Programming	3	3
English 21	English Literature 450-1800	3	
English 22	English Literature 1800-Present		3
Mathematics 22-101	Analysis III & Differential Equations	4	4
Elective	Business, or Economics	3	3
Philosophy 23-24	Philosophical Anthropology	3	3
Physical Education 23-24	Advanced Physical Education	1	1
		17	17
	Junior		
Philosophy	Philosophy Elective	3	3
History 1-2	History of the United States	3	3
Theology	Theology Electives	3	3
Electives	Computer Science Electives		3
Electives	Cognate Field	3	3
Mathematics 104	Statistics	3	
		15	15
	Senior		
Philosophy	Philosophy Electives	3	3
Theology	Theology Electives	3	3
Electives	Computer Science	6	6
Electives	Cognate Field	3	3
		15	15

Total: 128 credits

BACHELOR OF SCIENCE

MAJOR IN COMPUTER SCIENCE

DEGREE PROGRAMS IN BUSINESS ADMINISTRATION

The Business Administration curriculum gives the student a firm foundation in the liberal disciplines as well as a thorough understanding of economic principles, accounting, finance, management and marketing. The student is trained in an analytical approach to business problems. Individuality of thought and expression needed for civic and industrial leadership and the broad knowledge of economics and business necessary for executive responsibility are stressed.

Concentration may be in accounting and management or the student may arrange, with the approval of the department chairman, to follow other specialized programs of concentration.

BACHELOR OF SCIENCE
CONCENTRATION IN MANAGEMENT

Department and No.	Descriptive Title of Course	Credits Fall	Credits Spring
	Freshman		
English 5	Expository Writing	3	
English 6	Introduction to Literature		3
Language 23-24	Intermediate Language	3	3
Mathematics 7-8 or	Finite Mathematics or	3	3 or
Mathematic 13-14 or	Freshman Mathematics - Analysis I or	4	4 or
Business 3-4	Quantitative Methods I-II	3	3
Business 1-2	Elementary Accounting I-II	3	3
Theology 5	Introduction to Religion	3	
Physical Education 1-2	Basic Physical Education	1	1
		16-17	13-14
	Sophomore		
Philosophy 23-24	Philosophical Anthropology	3	3
English 21	English Literature, 450-1800	3	
English 22	English Literature, 1800 to Present		3
Economics 23-24	Principles of Economics I-II	3	3
Business 21-22	Intermediate-Managerial Accounting	3	3
Business 13-14	Business Law I-II	3	3
Theology 23	Theology of the Church	3	
Physical Education 23-24	Advanced Physical Education	1	1
		19	16
	Junior		
Philosophy 110	Philosophy of Human Conduct	3	
Philosophy	Ethics Elective		3
Business 108-107	Business Organization & Management Marketing	3	3
Business 105-106	Business Statistics I-II	3	3
History 1-2	History of the United States	3	3
or	or		or
History 3-4	Europe, 1500 to the Present	3	3
Science	Science Electives	3	3
		15	15

Department and No.	Descriptive Title of Course	Credits Fall	Credits Spring
	Senior		
Philosophy	Philosophy Electives	3	3
Theology	Theology Electives	3	3
Business 170-160	Marketing Management-Business Decision Making	3	3
Business 172-171	Administrative Practices-Financial Management	3	3
Business 103-126	Money and Credit Corporation Finance	3	3
		15	15
	Total 124-126 credits		

BACHELOR OF SCIENCE

CONCENTRATION IN ACCOUNTING

	Freshman		
English 5	Expository Writing	3	
English 6	Introduction to Literature		3
Language 23-24	Intermediate Language	3	3
Mathematics 7-8 or	Finite Mathematics or	3	3 or
Mathematics 13-14 or	Freshman Mathematics - Analysis I or	4	4 or
Business 3-4	Quantitative Methods I-II	3	3
Business 1-2	Elementary Accounting I-II	3	3
Theology 5	Introduction to Religion	3	
Physical Education 1-2	Basic Physical Education	1	1
		16-17	13-14
	Sophomore		
Philosophy 23-24	Philosophical Anthropology	3	3
English 21	English Literature, 450-1800	3	
English 22	English Literature, 1800 to Present		3
Business 21-22	Intermediate - Managerial Accounting	3	3
Economics 23-24	Principles of Economics I-II	3	3
Business 13-14	Business Law I-II	3	3
Theology 23	Theology of the Church	3	
Physical Education 23-24	Advanced Physical Education	1	1
		19	16

Department and No.	Descriptive Title of Course	Credits Fall	Credits Spring
	Junior		
Philosophy 110	Philosophy of Human Conduct	3	
Philosophy	Ethics Elective		3
Business 101-102	Advanced Accounting - Cost Accounting	3	3
Business 105-106	Business Statistics I-II	3	3
History 1-2	History of the United States	3	3
or	or		or
History 3-4	Europe, 1500 to the Present	3	3
Science	Science Electives	3	3
		15	15
	Senior		
Philosophy	Philosophy Electives	3	3
Theology	Theology Electives	3	3
Business 121-122	Auditing Theory I-II	3	3
Business 103-126	Money and Credit-Corporation Finance	3	3
Business 123-124	Federal Taxation I-II	3	3
		15	15

Total: 124-126 credits

DEGREE PROGRAMS IN EDUCATION

Since teaching is a profession which requires intellectual competence, a sound personality and self-dedication, no student is admitted directly from high school to a program in Education. A student who plans to train for teaching must register for his freshman year in the regular degree programs in the Arts and Social Sciences or in the Natural Sciences. He may apply for transfer to the Education Program at the end of his freshman or sophomore year if his academic record averages better than C, recommendations of his teachers are favorable, and evidence of a sound personality and competence in both written and oral English have been displayed

Careful planning of a student's program and consultation with advisors from the subject field and the Education Department is necessary properly to fulfill the University's requirement of thirty (30) upper division subject matter credits, eighteen (18) of which must be in one field, and the Pennsylvania Department of Education's certification requirements.

Education majors whose subject field is history substitute Hist. 1-2 for Soc. 21-22 in Sophomore year.

For information on Elementary Education, the student should consult the Education Department. (Cf. P. 64)

BACHELOR OF SCIENCE
PROGRAM PREPARATORY TO TEACHING

Department and No.	Descriptive Title of Course	Credits Fall	Credits Spring
	Freshman		
English 5	Expository Writing	3	
English 6	Introduction to Literature		3
Mathematics 7-8	Finite Mathematics	3	3
or	or	or	
Mathematics 13 14	Freshman Mathematics - Analysis I	4	4
Language 23 24	Intermediate Language	3	3
Theology 5	Introduction to Religion	3	
History 3-4	Europe, 1500 to the Present	3	3
Physical Education 1-2	Basic Physical Education	1	1
		16-17	13-14
	Sophomore		
Philosophy 23-24	Philosophical Anthropology	3	3
English 21	English Literature, 450-1800	3	
English 22	English Literature, 1800-Present		3
Sociology 21 22	Basic Sociology Social Problems	3	3
Education 21	Social Foundation of Education	3	
Psychology 23	Fundamentals of Psychology		3
Science	Science Electives	3	3
Theology 23	Theology of the Church	3	
Physical Education 23 24	Advanced Physical Education	1	1
		19	16

Junior

Philosophy 110	Philosophy of Human Conduct	3	
Philosophy	Ethics Elective		3
Education 102	Educational Psychology	3	
Education 103	Principles & Methods of Secondary Teaching		3
Electives	Subject Matter Electives	12	9
		18	15

Senior

Philosophy	Philosophy Electives	3	3
Theology	Theology Electives	3	3
*Education 105	Observation and Student Teaching	8	
*Education 104	Special Methods of Teaching in Subject Fields	3	
*Electives	Subject Matter Electives		9
		17	15

Total: 129-131 credits

* Education 104 105 is scheduled both semesters Subject matter electives are taken in the semester when student is not engaged in Student Teaching (Education 105)

SPECIAL PROGRAMS

HONORS PROGRAM

The Honors Program is designed to provide selected superior students with the opportunity for directed independent work and a challenge to their synthetic ability. Applicants are admitted to candidacy only after the completion of three semesters of college. Those candidates admitted to the program take tutorials both in and outside their major field and interdisciplinary seminars. All honors students must complete and give a public defense of a project. For details consult the Director of Honors.

MASTER'S DEGREE IN CHEMISTRY 5–YEAR PROGRAM

Program enabling the University of Scranton Chemistry major to complete both B.S. and M.A. degree in five years. Such a program includes all the prescribed courses now listed in the B.S. program plus 30 additional graduate credits. A student who wishes to enter this program may elect to do so at the completion of his sophomore year. In order to complete the program in five years, the student will take courses in the summer sessions following his sophomore year in order to free a total of 12 undergraduate credits from the senior year. 12 graduate credits will be taken during the senior year.

For detailed information, consult the Department.

MASTER'S DEGREE IN PHYSICS 5–YEAR PROGRAM

Available to Physics and Electronics majors at the University of Scranton. An M.A. degree with thesis or an M.S. degree without thesis will be offered. Students may elect to enter this program after completing sophomore year. In their first two years they will follow the prescribed curriculum for Physics or Electronics. All courses now prescribed for the B.S. will be included in the new program. Students seeking to complete the 5-year program will be required normally to take summer courses following junior and senior years.

For detailed information, consult the Department.

INTERNSHIPS FOR MAJORS IN ACCOUNTING

Seniors majoring in accounting are eligible to participate in a six week, on-the-job internship with eight nationally recognized accounting firms. The internship takes place in December-February of senior year. Selection is made on the basis of Quality Point Index rating and on interviews by company representatives. The student interns receive compensation for their work and very often receive lucrative job offers. In 1969, 30 seniors participated in this internship program.

INTERNSHIPS FOR MANAGEMENT-ECONOMICS MAJORS

A program of on-the-job training with major industrial and retail firms is provided for outstanding management-economics majors. The length of this program and the norms for selection will be similar to the accounting internships.

JUNIOR YEAR ABROAD PROGRAM

A Student wishing to study abroad during his Junior Year may do so under the following conditions:

1) An overall Quality Point Index standing of 2.5
2) Proven facility in the spoken language of the country where he wishes to study
3) Acceptance of credits from the overseas university

The University of Scranton cooperates yearly with the Loyola University of Rome, Center of Liberal Arts. Students also have attended Louvain University in Belgium, The Georgetown Overseas Extension at Madrid, the Universidad Ibero Americano in Mexico City and other approved programs. Interested Sophomores should see the International Services Advisor for detailed information.

INTERDISCIPLINARY COURSES

NATURAL SCIENCE 1 — THE PHYSICAL SCIENCES I 4 credits

An introduction to Physical Science for the non-science student that emphasizes the relationships between science and society in all its various aspects. Historical developments, astronomy, Newton's laws of motion, systems, feedback, cybernetics, space science, probability and statistics, heat and thermodynamics, and the role of observation and measurement are treated.

A weekly two-hour period is set aside for problem solving, experimentation and introduction to the mathematical methods necessary for the course.

NATURAL SCIENCE 2 — THE PHYSICAL SCIENCES II 4 credits

Continuation of Natural Science I—Electricity and Magnetism. Theory of Relativity, determinism, and modern physics, the Bohr atom, wave mechanics, radioactivity and the nucleus, nuclear power, the scientific method, science and the progress of man are covered.

A weekly two-hour period is set aside for problem solving, experimentation, and introduction to the mathematical methods necessary for the course.

NATURAL SCIENCE 3-4 — THE LIFE SCIENCES 6 credits

The course presents modern scientific principles and methods with a historical philosophical approach within the context of modern man and his environment. The course emphasizes the conceptual and analytical approach to systems and their inter-relationships built upon the principles of chemistry and physics learned earlier, and is therefore more biochemical, biophysical and physiological than descriptive or anatomical. Emphasis is also laid upon present day discoveries that have great relevance in the lives of every student—similarities between computers and neurological activity. The biochemical bases for memory, etc. The course will lay the ground work for more specialized courses in cytology, biochemistry, physiology and other aspects of the biological sciences.

NATURAL SCIENCE 101 SCIENCE AND THE HUMAN ENVIRONMENT 3 credits

A brief study of the effects of the technological, scientific and industrial progress on the air, land and water resources of the human environment. Problems in each of the resource areas will be discussed in some detail.

THEOL. / ENGL. 108 RELIGION AND LITERATURE 3 credits

A study of religious attitudes of man in the twentieth century as revealed through selected modern literary works in various genres. In the attempt to read literature for the revelation of religious ideas focused on the nature of man, the course will avoid the technical extremes of both doctrinal theology and literary criticism.

PHIL. / ENGL. 126 SYMBOLIC LOGIC 3 credits

This course explains the various systems of modern logics, their notational, canonical methodologies, their ontological assumptions, especially as these concern the foundations of mathematics and the creation of artificial languages. Methods of modern linguistic analysis, when it is applied to ordinary discourse and literature, are also introduced, especially as these have a relation to logic, syntax and semantics.

EXPERIMENTAL COURSES

As part of its effort to improve the curriculum, the University has encouraged departments to offer various experimental programs. Many are doing so in the year 1970-71, including English, Mathematics, Physical Education, Physics, Political Science, and Theology. Most of these will be open only to selected students for the coming year. The students will be notified regularly about the progress of curriculum revision.

COURSES OF INSTRUCTION

INSTRUCTIONAL DEPARTMENTS

This section of the bulletin presents the courses of instruction offered by each department of the University

- BIOLOGY
- BUSINESS ADMINISTRATION
- CHEMISTRY
- CLASSICAL LANGUAGES
- COMPUTER SCIENCE
- ECONOMICS
- EDUCATION
- ENGINEERING
- ENGLISH
- HISTORY
- MATHEMATICS
- MILITARY SCIENCE
- MODERN LANGUAGES
- PHILOSOPHY
- PHYSICAL EDUCATION
- PHYSICS
- POLITICAL SCIENCE
- PSYCHOLOGY
- SOCIOLOGY
- THEOLOGY

DEPARTMENT OF BIOLOGY

DR. EVANS, Chairman

Courses in the Department of Biology are designed to achieve the following objectives: 1. to present the fundamental scientific facts and concepts which are needed for an understanding of the living world and man's relation to it, 2. to develop habits of precision, accuracy, curiosity, critical evaluation, neatness and patience together with skill in laboratory techniques; 3. to prepare students for professional schools such as those of medicine, dentistry and allied fields or for advanced study or work in other biological fields.

To major in biological sciences the following courses are required.
Chemistry 11-12; 101-102; 120
Mathematics 13-14
Physics 1-2
Biology 1-2; 21-22, 103 and 105 with at least eight elective credits taken from Biology 23; 104, 120; 121; 124 Students preparing for research in the basic preclinical sciences are advised to add Mathematics 21-22.

BIOL. 1 & 2 GENERAL BIOLOGY 8 credits
A comprehensive study of the nature of living organisms, both plant and animal; their structure, function, development and relationships, including the problems of development, heredity and evolution 2 hours lecture and four hours laboratory each semester

BIOL. 3 & 4 GENERAL BIOLOGICAL SCIENCE 6 credits
The nature of living organisms and general biological principles, as they affect man and in relation to his problems, are stressed in general terms.

BIOL. 21 & 22 COMPARATIVE VERTEBRATE ANATOMY 8 credits
(Prerequisite: Biology 1-2) Structure and phylogeny of vertebrate organ systems, emphasizing mammalian structure and correlation with function Shark, necturus, turtle, pigeon, cat subjected to detailed laboratory study 2 hours lecture and 4 hours laboratory each semester

BIOL. 23 GENETICS 4 credits
(Prerequisite Biology 1-2 or 3 4) Principles and theories of heredity as developed by experimental breeding, biometrical and cytological methods with their applications to plant, animal and human heredity 2 hours lecture and 4 hours lab

BIOL. 101 CELLULAR BIOLOGY 4 credits
(Prerequisite: Biology 1-2 or 3 4) Morphology, physiology and biochemistry of the cell as the basic unit in all living organisms and a unifying theme of life 2 hours lecture and 4 hours laboratory.

BIOL. 103 HISTOLOGY 4 credits
(Prerequisite Biology 21-22) The microscopic structure and the functioning relationships of vertebrate tissues and organs with most attention devoted to the mammal 2 hours lecture and 4 hours laboratory

BIOL. 104 MICROTECHNIQUE 4 credits
(Corequisite Biology 103) General and special methods in the preparation of animal and plant cells and tissues for microscopic study 1 hour lecture and 6 hours laboratory

BIOL. 105 EMBRYOLOGY 4 credits
(Prerequisite Biology 21 22) Comparative study of reproduction, gametogenesis, fertilization, cleavage, morphogenesis, development of organ-systems in frog, chick and pig 2 hours lecture and 4 hours laboratory

BIOL. 106 PRINCIPLES OF HEREDITY 3 credits
A less technical presentation of the principles and concepts of heredity, stressing their practical applications to the problems of plant, animal and human inheritance 2 hours lecture and 2 hours laboratory

BIOL. 107 ANATOMY & PHYSIOLOGY 3 credits
Fundamentals of structure and function of the human body to develop an understanding of its physical nature and operation.

BIOL. 108 FIELD BIOLOGY 3 credits
(Prerequisite Biology 3 4) Study of living organisms in relation to each other and to all aspects of environment, together with techniques for collecting and maintaining living organisms 2 hours lecture and 2 hours laboratory.

BIOL. 120 GENERAL PHYSIOLOGY 4 credits
(Prerequisites Biology 21-22, Chem 101 102, (Phys 1 2) Physiological processes underlying the functioning of the animal organism Biochemistry of protoplasm, enzymes, irritability, excitation, conduction, contractility, cellular physiology, and functions of mammalian organ systems. 2 hours lecture and 4 hours laboratory

BIOL. 121 MICROBIOLOGY 4 credits
(Prerequisites Biology 21 22, Chem 101 102, Phys. 1 2) Structure, function, growth, reproduction, heredity and relationships of bacteria, yeasts, molds, virus, including a brief survey of pathogens, and an introduction to disease and immunology

BIOL. 124 UNDERGRADUATE RESEARCH Variable credit
(Prerequisites. 12 credits in Biology, Chemistry 101-102, Physics 1-2) Individual problems for advanced students with sufficient background in biological and physical sciences Subject time and credits arranged individually

BIOL. 191 & 192 GUIDED INDEPENDENT STUDY Variable credit
A tutorial program open to junior Honors students only Content determined by mentor Maximum enrollment 3 students.

BIOL. 195 & 196 SENIOR TUTORIAL Variable credit
A tutorial program open only to senior Honors students majoring in Biology The course involves the preparation of a special project which is reported in writing and defended orally before the faculty of the department

DEPARTMENT OF BUSINESS ADMINISTRATION

DR. ZANDARSKI, Chairman

Courses in Business Administration are designed to: 1. Encourage individuality of thought and expression by the student, to develop in him an analytical approach to the solution of current business problems and thereby develop future civic and industrial leaders. 2. Train for executive positions in the business world through the study of accounting, law and theoretical as well as applied economics, to serve as preliminary training for those wishing to enter the field of law or graduate study in business; to train intensively those wishing to enter the field of public or private accounting

The following courses are required of all business majors: Mathematics 7-8 or 13-14 or Business 3-4; Economics 23-24; Business 1-2; 13-14; 21-22; 103-126; 105-106. In addition the accounting concentration requires Business 101-102; 121-122; 123-124. The management concentration requires Business 107-108, 160, 170, 171, 172.

BUS. 1 ELEMENTARY ACCOUNTING I 3 credits
An introductory course designed to give an overall view of the principles, methods, purposes and procedures of accounting including financial statements, theory of accounts, journalizing, posting, periodic summary of data, special journals, adjusting entries, receivable and inventories. 3 hours lecture and 1 hour laboratory.

BUS. 2 ELEMENTARY ACCOUNTING II 3 credits
(Prerequisite: Business 1) A study of the principles of accounting for plant assets-depreciation, the voucher system, property and sales taxes, payrolls, partnerships and corporations. 3 hours lecture and 1 hour laboratory.

BUS. 3 QUANTITATIVE METHODS I 3 credits
Finite Mathematics including theory of sets and deductive logic; analytic geometry; algebraic and transcendental functions; mathematics of finance.

BUS. 4 QUANTITIVE METHODS II 3 credits
Matrix methods and linear algebra, including linear programming; differential and integral calculus; probability theory; stresses the use of modern mathematics in solution of business problems.

BUS. 13 BUSINESS LAW I 3 credits
Introduction to the study of law, its nature and administration The law of contracts, sales, transportation and storage of goods.

BUS. 14 BUSINESS LAW II 3 credits
(Prerequisite: Business 13) A study of the laws of credit transactions, negotiable instruments, agency, employer-employee relationships, insurance and real property

BUS. 21 INTERMEDIATE ACCOUNTING 3 credits
(Prerequisite. Business 2) A comprehensive study of advanced corporate accounting principles and procedures. 3 hours lecture and 1 hour laboratory

BUS. 22 MANAGEMENT ACCOUNTING 3 credits
(Prerequisite: Business 21) A study of selected accounting techniques required in compiling and interpreting financial data for managerial decision-making. 3 hours lecture and 1 hour laboratory

BUS. 101 ADVANCED ACCOUNTING 3 credits
(Prerequisite Business 21) Special sales procedures: installment sales, consignments, agency and branch accounting. Consolidated accounting. Statement of affairs Receivership accounts and statements. 3 hours lecture and 1 hour laboratory

BUS. 102 COST ACCOUNTING 3 credits
(Prerequisite Business 21) The managerial aspects of cost accounting Process costs, specific job order costs, standard costs, estimated cost systems and budgets. 3 hours lecture and 1 hour laboratory

BUS. 103 MONEY AND CREDIT 3 credits
(Prerequisite Economics 24) A survey of money credit and prices and their effects on economic stability Credit controls by the Federal Reserve System

BUS. 105 BUSINESS STATISTICS I 3 credits
(Prerequisite Economics 24) Statistical investigations Use of mechanical equipment Sampling and concept of error Presentation of data Frequency distributions. Averages. Dispersion and skewness. 3 hours lecture and 1 hour lab

BUS. 106 BUSINESS STATISTICS II 3 credits
(Prerequisite Business 105) Introduction to the theory of probability Index numbers. Time series analysis. Correlation and forecasting. 3 hours lecture and 1 hour laboratory

BUS. 107 MARKETING 3 credits
Product distribution from its inception to ultimate use by consumer. Market research and analysis. Channels of distribution

BUS 108 ORGANIZATION AND MANAGEMENT 3 credits
(Prerequisite Economics 24) An introductory course concerned with the essentials of managerial action planning, control, leadership and other human elements within an organized managerial structore (Occasional factory trips)

BUS. 121 AUDITING THEORY I 3 credits
(Prerequisite Business 21) A review of generally accepted accounting principles and applicable auditing standards Preparation of work papers Auditing original records and assets 3 hours lecture and 1 hour laboratory

BUS. 122 AUDITING THEORY II 3 credits
(Prerequisite Business 121) Audit of liabilities and proprietorship Income statement. The audit report Internal auditing Ethics of the profession Audit case problems 3 hours lecture and 1 hour laboratory

BUS. 123 FEDERAL TAXES I 3 credits
(Prerequisite: Business 21) Individual and partnership income taxes. Three lecture hours and one hour laboratory.

BUS. 124 FEDERAL TAXES II 3 credits
(Prerequisite Business 123) Corporation income taxes, with special emphasis on current Internal Revenue Service regulations Three lecture hours and one hour laboratory

BUS. 126 CORPORATION FINANCE 3 credits
(Prerequisite Economics 24) The financial structure and problems of business corporations. Promotion. Investment banking. The security markets. Expansion, failure, reorganizations and receiverships

BUS. 151 INDUSTRIAL ENGINEERING AND FACTORY MANAGEMENT 3 credits
Review of the basic principles of organization and their application to the functions and personnel of the production department of the modern plant. Job study analysis and time and motion study Wage systems, incentives and control of labor costs.

BUS. 160 BUSINESS DECISION MAKING 3 credits
(Prerequisite Business 108) An integrating course designed to formulate and evaluate business decisions and policies in respect to overall company problems and operations The case method will be used throughout

BUS. 170 MARKETING MANAGEMENT 3 credits
(Prerequisite Business 107) Managerial problems of product development and distribution Product promotion Personal and mass distribution. Pricing

BUS. 171 FINANCIAL ADMINISTRATION 3 credits
(Prerequisite Business 103) The functions of various banking, monetary and financial institutions and their use by business

BUS. 172 ADMINISTRATIVE PRACTICES 3 credits
(Prerequisite Business 108) Managerial functions and techniques integrated with case studies and problems

BUS. 191 & 192 GUIDED INDEPENDENT STUDY Variable credit
A tutorial program open to junior Honors students only Content determined by mentor. Maximum enrollment 3 students.

BUS. 195 & 196 SENIOR TUTORIAL Variable credit
A tutorial program open only to senior Honors students majoring in Business. The course involves the preparation of a special project which is reported in writing and defended orally before the faculty of the department

DEPARTMENT OF CHEMISTRY

DR. BURTI, Chairman

The aims of the department are: 1. to train the student in analytical skills and scientific methodology and develop the character traits of patience, pertinacity, honesty and neatness, which are indispensable to the scientist; 2. to train the student for a position of responsibility, either as an advanced student in a graduate or professional school or as a member of the staff of an educational, industrial or research institution.

The Department is accredited by the American Chemical Society.

To major in Chemistry the following courses are required: Mathematics 13-14, 21-22; Physics 11-12; Chemistry 11-12 plus thirty-two (32) additional credits in upper division courses including Chemistry 101, 102, 103; Chemistry 123, 124, 125, 127, 128.

CHEM. 3 ELEMENTS OF CHEMISTRY 3 credits

A brief survey of the field of chemistry, treating some of the basic concepts of chemistry. The course is conducted on a lecture-demonstration basis.

CHEM. 4 FUNDAMENTALS OF GENERAL CHEMISTRY 3 credits

A study of the general concepts and fundamentals of Inorganic Chemistry, Organic Chemistry and Bio-chemistry. 3 hours lecture and 1 hour laboratory.

CHEM. 11 & 12 GENERAL AND ANALYTICAL CHEMISTRY 8 credits

A study of the laws, theories and principles of general chemistry together with qualitative and quantitative analysis. Laboratory work covers semi-micro techniques for qualitative analysis and gravimetric and volumetric analysis. 3 hours lecture and 3 hours laboratory each semester.

CHEM. 101 & 102 ORGANIC CHEMISTRY I-II 8 credits

(Prerequisites: Chemistry 11-12) An introduction to the chemistry of the principal aliphatic and aromatic compounds of carbon and their derivatives. Laboratory work includes investigation of the chemical properties and synthesis of the compounds studied. 3 hours lecture and 3 hours laboratory each semester.

CHEM. 103 ORGANIC CHEMISTRY III 4 credits

(Prerequisites: Chemistry 101-102) A continuation of Chemistry 101-102, emphasizing the study of the major types of organic mechanisms. Laboratory work involves advanced techniques. Two hours lecture, Six hours laboratory.

CHEM. 120 FUNDAMENTALS OF PHYSICAL CHEMISTRY 4 credits

(Prerequisite: Chemistry 11-12) A basic course in physical chemistry, stressing fundamental concepts of thermodynamics, kinetics, electrochemistry and colloidal systems. Laboratory experiments involve solution and colloidal chemistry, together with basic methods of instrumental analysis. 3 hours lecture and 3 hours laboratory.

CHEM. 121 BIOCHEMISTRY I 3 credits
(Prerequisites Chemistry 102 & 124) Principles of biochemistry and biophysical chemistry, including enzyme kinetics A study of the chemical nature of lipids, carbohydrates, proteins, nucleic acids and enzymes including relationships between vitamins, hormones and inorganic compounds. 3 hours lecture

CHEM. 122 BIOCHEMISTRY II 3 credits
(Prerequisite Chemistry 102 & 124) A study of the metabolism, digestion and absorption of carbohydrates, lipids, amino acids and proteins, including energy transformations together with the role of enzyme systems in the above processes 3 hours lecture

CHEM. 123 & 124 PHYSICAL CHEMISTRY I-II 8 credits
(Prerequisites Chemistry 11-12, Mathematics 21-22) A study of the physicochemical properties of matter and the dynamics of chemical reactions Laboratory experiments illustrate the principles studied. 3 hours lecture and 3 hours laboratory each semester.

CHEM. 125 INSTRUMENTAL ANALYSIS 4 credits
(Prerequisite Chem 123) Instrumental methods of analysis consisting of theory and application of such instrumental techniques as spectroscopy polarography and instrumental titrimetry Laboratory stresses instrumental analysis and techniques. 2 hours lecture and 6 hours laboratory

CHEM. 127 CHEMICAL LITERATURE 1 credit
A study of the published source material of chemical science and chemical industry The course includes practical instruction in library technique 1 hour lecture

CHEM. 128 SEMINAR 1 credit
(Prerequisites Chemistry 101 102, 123 124) A discussion of advanced topics in chemistry for students majoring in chemistry Assignments will be made from various areas of chemistry, and full discussion by the participants is expected 1 hour each week

CHEM. 129 PHYSICAL CHEMISTRY III 3 credits
(Prerequisites Chemistry 124) Special topics, including classical and quantum statistics and thermodynamics, molecular and solid state structure and quantum chemistry 3 hours lecture

CHEM. 130 INORGANIC CHEMISTRY 3 credits
(Prerequisite Chemistry 124) Descriptive chemistry of selected elements and their compounds, correlated with the periodic table, physical properties, atomic and molecular structure, bonding and the ligand theory 3 hours lecture

CHEM. 132 UNDERGRADUATE RESEARCH 2 credits
(Prerequisites. Chemistry 103, 124 & 127) Individual study and research in connection with a specific chemical problem The course taken with the permission of the Chemistry Department Staff.

CHEM. 136 PHYSICAL ORGANIC CHEMISTRY 4 credits
(Prerequisites: Chemistry 103, 123, 124) Methods of determining mechanisms of organic reactions involving identification of intermediates and products, the study of catalysis, isotope labeling and interpretation of stereo-chemical and kinetic evidence. Laboratory stresses methods of analysis based mainly on the constitutive physical properties of organic compounds and kinetic studies for the purpose of determining organic reaction mechanisms. Two hours lecture, six hours laboratory.

CHEM. 147-148 INTERMEDIATE PHYSICAL CHEMISTRY 6 credits
A review of the fundamentals of Chemical Principles, and a treatment of the Mathematics requisite for such review. This course is designed for prospective Graduate Students in the M.S. and M.A. programs in Chemistry with a deficiency in Physical Chemistry and Calculus. 2 Semesters.

CHEM. 191 & 192 GUIDED INDEPENDENT STUDY Variable credit
A tutorial program open to junior Honors students only Content determined by mentor. Maximum enrollment 3 students.

CHEM. 195 & 196 SENIOR TUTORIAL Variable credit
A tutorial program open only to senior Honors students majoring in Chemistry. The course involves the preparation of a special project which is reported in writing and defended orally before the faculty of the department.

DEPARTMENT OF CLASSICAL LANGUAGES AND ART APPRECIATION

MR. MANN, Chairman

Courses in Classical Languages give the student a solid foundation in Latin and Greek to engender an appreciation of the liberal aspects of Classical studies.

Classics majors must present a minimum of twenty-four (24) semester hours in upper division courses. If a student receives advanced placement without credit in a classical language, he should take upper-division electives to complete the 126 credits needed for graduation with an A.B. degree.

Students majoring in other fields satisfy the Latin requirement of the Bachelor of Arts course by taking Latin 107-108, or, exceptionally, any upper-division courses. Students taking elementary Latin will continue with the sequence Latin 23 & 24, 107 & 108.

Students desiring to major in the Fine Arts (e.g. music, drama, art) should consult the Dean of Studies about a cooperative program with Marywood College.

GREEK

GREEK 1 & 2 ELEMENTARY GREEK 6 credits
An intensive course in the fundamentals of Classical Greek grammar

GREEK 23 & 24 INTERMEDIATE GREEK 6 credits
Review of fundamentals. Readings from Xenophon, Euripides and the New Testament.

GREEK 101 HOMER 3 credits
Selected readings from the Iliad and the Odyssey. An appreciation of the diction, thought and beauty of Homer.

GREEK 102 THUCYDIDES 3 credits
Evaluation of fifth century Athens and of Thucydides as philosopher and historian. Readings from the History of the Peloponnesian War.

GREEK 105 PLATO 3 credits
Reading of the Apology. A philosophical, historical and literary analysis of Plato and Socrates. Supplementary reading in the Crito and Phaedo.

GREEK 106 EURIPIDES 3 credits
Reading and analysis of the Medea with an evaluation of the art and thought of Euripides.

GREEK 107 SOPHOCLES 3 credits
Evaluation of Sophocles as a poet, dramatist and thinker through a study of the Oedipus Tyrannus.

GREEK 108 DEMOSTHENES 3 credits
An analysis of the De Corona as a model of rhetoric. Consideration of the rhetorical norms established by Aristotle.

GREEK 109 (110) READINGS IN GREEK LITERATURE 3 6 credits
Selections from Greek writers to suit the student's special interest.

GREEK 191 & 192 GUIDED INDEPENDENT STUDY Variable credit
A tutorial program open to junior Honors students only. Content determined by mentor. Maximum enrollment 3 students.

GREEK 195 & 196 SENIOR TUTORIAL Variable credit
A tutorial program open only to senior Honors students majoring in Greek. The course involves the preparation of a special project which is reported in writing and defended orally before the faculty of the department.

LATIN

LATIN 1 & 2 ELEMENTARY LATIN 6 credits
An intensive course in the fundamentals of Latin. Reading and composition.

LATIN 23 & 24 INTERMEDIATE LATIN 6 credits
Review of fundamentals. Reading of selections from Caesar, Cicero and Virgil.

LATIN 101 HORACE AND JUVENAL 3 credits
A study of Roman satire revealing the life, manners and thought of the times

LATIN 102 CICERO: RHETORIC 3 credits
The Pro Lege Manilia and Pro Milone are studied from the standpoint of rhetorical analysis

LATIN 103 CICERO AND LUCRETIUS 3 credits
Selections from the Tusculan Disputations and the De Rerum Natura illustrate contrasting developments in Roman thinking. The course includes a brief survey of ancient philosophy.

LATIN 104 CHRISTIAN LATIN LITERATURE 3 credits
Selections from Christian Latin writers with concentration on the Confessions of St. Augustine. Lectures on the development of Christian Latin literature.

LATIN 105 PLAUTUS AND TERENCE 3 credits
Reading of the Duo Captivi and Phormio. Lectures on the development of Roman comedy.

LATIN 106 TACITUS 3 credits
The Agricola and Germania are read. A study of style and content in Tacitus. Reference to the Annals and Histories.

LATIN 107 LIVY AND VIRGIL 3 credits
Selections from Livy I and XXI, and from Books VII-XII of Virgil's Aeneid

LATIN 108 HORACE AND CATULLUS 3 credits
Lyric poetry illustrated by the Odes of Horace and selected poems of Catullus

LATIN 109 (110) READINGS IN LATIN LITERATURE 3-6 credits
Selections from Latin writers to suit the student's special interest.

LATIN 115 & 116 LATIN COMPOSITION 6 credits
Exercises in the writing of correct Latin prose. The course is intended for Classics majors and for prospective teachers of Latin.

LATIN 191 & 192 GUIDED INDEPENDENT STUDY Variable credit
A tutorial program open to junior Honors students only. Content determined by mentor. Maximum enrollment 3 students.

LATIN 195 & 196 SENIOR TUTORIAL Variable credit
A tutorial program open only to senior Honors students majoring in Latin. The course involves the preparation of a special project which is reported in writing and defended orally before the faculty of the department.

ART APPRECIATION

ART 101 & 102 APPRECIATION OF THE VISUAL ARTS 6 credits
The interpretation, appreciation and aesthetic norms of art, architecture and sculpture. Aegean civilization, Greece and Rome. Early Christian and Byzantine art. Romanesque and Gothic classics will be discussed during the first semester. The spring term includes the Renaissance painting, sculpture and architecture, Baroque period painting in the Low Countries and England. French art form classicism to post-impressionism. Modern trends

ART 103 & 104 MUSIC APPRECIATION 6 credits
Introduction to elements and forms. Analysis and interpretation of respected masterpieces to encourage perceptive listening habits. The first semester will preview music development to Bach, while the second semester will treat compositions from Bach to the present including America. No previous formal training is required.

ART 106 & 107 THE HISTORY AND ART OF THE CINEMA 6 credits
A study of the historical development and techniques of motion pictures as a major form in our modern culture. The first semester embraces the history, grammar and poetics of Film, while the Spring semester will be devoted to Films rhetoric, aesthetics and critism

DEPARTMENT OF COMPUTER SCIENCE

MR. PLONSKY, Chairman

The computer science division offers courses designed to meet the needs for training in computer science of students in many disciplines. The courses are designd to make the students aware of the many facets of computing.

Because of the diversity of applications of computing, a student desiring to obtain a B. S. in Computer Science will decide in consultation with his advisor, his selected minor area. A computer Science major is required to take Math 14-21-22, CMPSC 20-25-100-101, plus 15 upper level credits in computer science and 12 credits in the approved cognate area.

CMPSC 20 INTRODUCTION TO COMPUTER SCIENCE I 3 credits
An introduction to computer programming using the FORTRAN compiler. Included in this course are the concepts of flow-charting, algorithms as well as various programming techniques. Applications from mathematics and the natural sciences will be emphasized. Prerequisite: None. Lab Fee: $20.00.

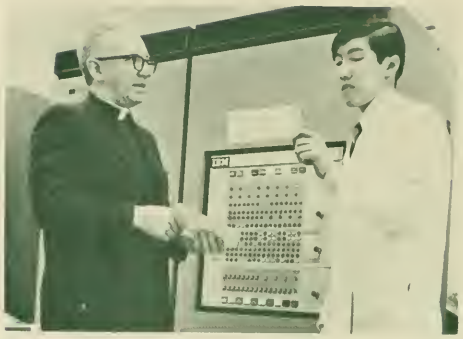
CMPSC 21 INTRODUCTION TO COMPUTER SCIENCE I 3 credits
This course is basically the same as CMPSC 20 except that a business oriented compiler will be used and applications from the social sciences, business, and accounting will be emphasized. Prerequisite: None. Lab Fee: $20.00.

CMPSC 25 INTRODUCTION TO COMPUTER SCIENCE II 3 credits
This course will emphasize non-numeric computer applications. Among the concepts discussed will be the implementation of queues, pushdown stores, and tree structured data. Prerequisite CMPSC 20/21. Lab Fee: $20.00.

CMPSC 100 ASSEMBLY LANGUAGE PROGRAMMING 3 credits
An introduction to assembler programming. Among the topics discussed will be machine organization, the representation of data, the assembler, input-output routines and the use of macros. Prerequisite: CMPSC 20/21. Lab Fee: $20.00.

CMPSC 101 SYSTEMS ORGANIZATION AND PROGRAMMING 3 credits
The analysis and design of computer systems including debugging, operating system design and the implementation of multiprogramming. Prerequisite: CMPSC 100.

CMPSC 110 DATA STRUCTURES 3 credits
The representation and transformation of information. This course stresses the interrelation between data structure and program structure. Formal descriptions of various data structures will be studied as well as the methods needed to assess them. Included will be an elementary discussion of compiler structure. Prerequisite: CMPSC 100.



CMPSC 130 NUMERICAL COMPUTATION 3 credits
Techniques of numerical integration and differentiation, differential and difference equations and error analysis. Prerequsite: Math 22 and CMPSC 20.

CMPSC 131 MATRIX COMPUTATION 3 credits
Algorithms for solving linear equalities and inequalities, and matrix manipulation techniques and error analysis. Prerequisite: Math 111 and CMPSC 20/21.

CMPSC 140 FOUNDATIONS OF COMPUTER SCIENCE 3 credits
An introduction to the foundations of computer science taken from logic, recursive function theory, turning machines, automata theory, and formal language theory. Prerequisite: Consent of the instructor.

CMPSC 150 STRUCTURE OF PROGRAMMING LANGUAGES 3 credits
A formal description of computer languages, compiler structure and techniques. Topics to be discussed include syntax, semantics, ambiguities, list structures, push-down stacks, string and formula manipulation. Prerequisite: CMPSC 110.

CMPSC 160 FORMAL LANGUAGE THEORY 3 credits
A development of a precise notion of computability and the relationship to turing computable and recursive functions. Prerequisite: CMPSC 140.

CMPSC 191-192 GUIDED INDEPENDENT STUDY Variable credit
A tutorial program open to junior Honors students only. Contents determined by mentor. Maximum enrollment — 3 students.

CMPSC 195-196 SENIOR TUTORIAL Variable credit
A tutorial program open to senior Honor students majoring in Computer Science. The course involves the preparation of a special project which is reported in writing and defended orally before the faculty of the department.

DEPARTMENT OF ECONOMICS

DR. ZANDARSKI, Chairman

Courses in economics are designed to provide the terminal student and the prospective graduate student with a basic understanding of the economic forces which are part of the structure of our society, to provide a solid foundation in economic theory for business administration students

A major in Economics in the Social Science or Liberal Arts Curriculum will consist of Economics 23, 24, t02, t04, 115 116, 120, 121, 125 and 126 Among the elective courses, Business 1 and 2 must be included by Economics majors in Junior year, plus six (6) other credits drawn from electives in the Humanities, Social Sciences or Natural Sciences.

A.B. Economics students take Math 7 & 8 or Math 13 & 14 or Business 3 & 4.

ECON. 23 PRINCIPLES OF ECONOMICS I 3 credits
Basic economic concepts. Problem of production and consumption Income determination Value and price determination Distribution of income.

ECON. 24 PRINCIPLES OF ECONOMICS II 3 credits
Economic role of government. Fiscal, monetary and stabilization policies. International trade policies. Comparative economic systems

ECON. 102 HISTORY OF ECONOMIC THOUGHT 3 credits
(Prerequisite: Economics 24) A survey of the origins of economic thought. Particular stress is placed on the economic and socio-political factors of the time

ECON. 103 ECONOMIC GEOGRAPHY 3 credits
(Prerequisite: Economics 24) The relation of physical factors and economic conditions to the production and exchange of the world's leading commercial products. The major continents are studied with emphasis on their relationship to the United States.

ECON. 110 COMPARATIVE ECONOMIC SYSTEMS 3 credits
(Prerquisite: Economics 24) A survey of utilization of economic resources, production of wealth, and distribution of income under different political economic systems. Special emphasis will be placed on the organization of economic activities under capitalism and under socialism.

ECON. 111 ECONOMICS OF INTERNATIONAL TRADE 3 credits
(Prerequisite: Economics 24) An analysis of the economic theory of international trade; the effect of trade on national incomes; trade restrictions, short and long run capital movements; international financial instruments

ECON. 115 INTERMEDIATE ECONOMICS 3 credits
(Prerequisite Economics 24) An analysis of production and cost theories. Pure competition, monopoly, oligopoly, and monopolistic competition. Factor pricing, resource allocation, and income distribution

ECON. 116 MACROECONOMIC ANALYSIS 3 credits
(Prerequisite Economics 24) Study of national income accounting, price level fluctuations, problems of full employment, impact of monetary and fiscal policies on the income level and distribution

ECON. 118 PRINCIPLES OF PUBLIC FINANCE AND TAXATION 3 credits
Government expenditure, budgets, inter governmental fiscal relations, public debt, fiscal policy, and principles of taxation

ECON. 120 MONEY AND CREDIT 3 credits
(Prerequisite Economics 24) A survey of money, credit and prices and their effects on economic stability. Credit controls by the Federal Reserve System

ECON. 121 CORPORATION FINANCE 3 credits
(Prerequisite. Economics 24) The financial structure and problems of business corporation. Promotion. Investment banking. The security markets. Expansion, failure, reoganizations and receiverships

ECON. 125 STATISTICS I 3 credits
(Prerequisite. Economics 24) Statistical investigations Use of mechanical equipment Sampling and concept of error Presentation of data. Frequency distributions Averages. Dispersion and skewness 3 hours lecture and 1 hour laboratory

ECON. 126 STATISTICS II 3 credits
(Prerequisite: Economics 125) Introduction to the theory of probability. Index numbers Time series analysis Correlation and forecasting 3 hours lecture and 1 hour laboratory

ECON. 151 LABOR ECONOMICS 3 credits
(Prerequisite Economics 24) Employment as a career and source of income the measurement of wages, earnings and labor costs, the economics of wage determination, the labor force, employment and unemployment, income and economic welfare

ECON 191 & 192 GUIDED INDEPENDENT STUDY Variable credit
A tutorial program open to junior Honors students only Content determined by mentor Maximum enrollment 3 students

ECON. 195 & 196 SENIOR TUTORIAL Variable credit
A tutorial program open only to senior Honors students majoring in Economics The course involves the preparation of a special project which is reported in writing and defended orally before the faculty of the department

DEPARTMENT OF EDUCATION

DR. LENNON, Chairman

MR. CURTIS, Director of Student Teaching

The aims of the Department of Education are: 1. to develop in the individual those professional qualities required for successful teaching; 2. to offer professional training for certification as a secondary school teacher; 3. to meet requests for specific courses by teachers in service, 4. to aid in the professional development of teachers by presenting a well integrated program of graduate studies leading to the Master's Degree

Students will be accepted for teacher education only with the approval of the Department of Education. In addition to favorable personal traits, the minimum scholarship requirements include an overall QPA of 2.00; QPA 2.50 in the teaching field and approval of the applicant's major subject department

A.B. candidates wishing to take upper-division education courses 102-103-104-105 as their free electives may do so with the approval of their own department chairman and the chairman of the Department of Education. In such cases, Education 21 and Psychology 23 are pre-requisites.

Students who desire to major in Elementary Education and become certified to teach in elementary school may apply in their sophomore year to the Department of Education. A student accepted in this program takes his liberal arts credits at the University of Scranton and most of his elementary education credits at Marywood College through a cooperative arrangement.

EDUC. 21 SOCIAL FOUNDATIONS OF EDUCATION 3 credits
The characteristics of the public school system in the United States; the role of education in our current society and the relationship of schools to other social institutions.

PSYCH. 23 FUNDAMENTALS OF PSYCHOLOGY 3 credits
An introduction to the science of psychology with emphasis on the nature of behavioral data, learning paradigms, and assumptions underlying the fundamental principles of development and motivational-emotional processes. Introduction to, and familiarization with, the basic sources in psychology including journals and handbooks.

EDUC. 102 EDUCATION PSYCHOLOGY 3 credits
Stresses growth and development, individual differences, intelligent, motivation, learning principles, transfer of training. Junior year experience is required.

SECONDARY EDUCATION

EDUC. 103 PRINCIPLES AND METHODS OF SECONDARY TEACHING 3 credits
(Prerequisites: Education 21 & 102; Psychology 23) Practicum in planning skills, Educational Analysis skills, technical skills, teaching skills, self-evaluation skills, situational analysis skills, and rationale for decision-making in each of the above areas. Junior year experience is required.

EDUC. 104 SPECIAL METHODS OF TEACHING IN SUBJECT FIELDS 3 credits
Secondary school objectives, curricula and general principles of instruction. Preparation of units and lesson plans; mock teaching under supervision of Education and subject-matter faculty. Observations in the field. Certain basic reading material related to curricular areas are also studied.

EDUC. 105 OBSERVATION AND STUDENT TEACHING 8 credits
(Prerequisites: Education 21-102, 103-104 & Psych. 23) Observation and study of classroom teaching are combined with actual student teaching under expert supervision. Group conferences and personal interviews with the supervisors.

EDUC. 106 PHILOSOPHY OF EDUCATION 3 credits
An examination of representative modern systematic philosophies of education with a critical analysis of the answers that each system of philosophy provides to the important questions concerning the nature of knowledge, of value, of man and of society. Specific problems which arise in the study of the aims and practices of education will be analyzed according to theories of the philosophical systems examined.

DEPARTMENT OF ENGINEERING

MR. PLONSKY, Chairman

The University provides a two year pre-engineering program which introduces the student to the highly technical training necessary for all phases of the engineering profession.

Of special importance is the University of Scranton's association with the Cooperative Engineering Program at the University of Detroit which is open to all students who successfully complete this pre engineering program The cooperative plan of engineering education at the University of Detroit offers alternate semesters of formal instruction and work experience in industry

ENGR. 3 ENGINEERING GRAPHICS I 2 credits
The drawing of objects in orthographic, isometric, oblique and sectional views. Dimensioning, vector geometry, graphs, and nomographs. Fundamental applications of the slide rule Five hours per week of lecture, demonstration, recitation and laboratory

ENGR. 4 ENGINEERING GRAPHICS II 2 credits
(Prerequisite: Engineering 3) The geometric method of projection of points, lines and planes, and the application of this method to graphical solution of engineering problems involving lines, planes and solids; intersection of solids leading to the development of surfaces; graphical differentiation and integration Five hours per week of lecture, demonstration, recitation, and laboratory

ENGR. 5 DIGITAL COMPUTER PROGRAMMING I 1 credit
Introduction to the fundamentals of FORTRAN language to enable the student to prepare and program relatively simple scientific problems using the IBM 1800 digital computer. Introduction to the Input and Output statements as well as Branching and Looping will be treated. Programs must be on punched cards acceptable to the computer. One hour per week lecture alternating with three hours of laboratory per week

ENGR. 6. DIGITAL COMPUTER PROGRAMMING II 1 credit
(Prerequisite: Engineering 5) A more complete development and application of the techniques introduced in Engineering 5. The preparation and programming of more complex problems requiring the use of arrays, dimension, and decision-making statements as well as more sophisticated output formats are treated. Programs must be submitted on punched cards acceptable to the computer. One hour per week lecture alternating with three hours of laboratory per week

ENGR. 21 ENGINEERING MECHANICS-STATICS 4 credits
(Prerequisite: Physics 18 or Physics 11; Corequisite: Mathematics 21) Various types of force systems; resultants and conditions of equilibrium; stress analysis of the parts of different types of structures by graphical, algebraic and vector methods; frictional forces; centroids, and second moments of areas and solids.

ENGR. 22 ENGINEERING MECHANICS-DYNAMICS 4 credits
(Prerequisite Engineering 21; Corequisite Mathematics 22) Kinematics of particles and rigid bodies which includes linear, curvilinear, angular and relative

motions; inertia, forces, impulse, momentum, work, energy and power; mechanical vibrations.

ENGR. 44 CIRCUIT ANALYSIS 4 credits
(Prerequisites: Physics 12 and Mathematics 22) Intermediate course treating Kirchhoff's Laws, resistance networks, steady state and transient conditions in RC, RL and RLC networks, Thevein's and Norton's theorems and their equivalent circuits. Three hours lecture and two hours laboratory per week

ENGR. 101 ENERGY CONVERSION 4 credits
(Prerequisite. Engr 44 or Physics 24) Electrical and electromechanical energy conversion. The application of the principles of electric and magnetic circuits to the theory and performance of electrical machinery Experimental work in electrical machinery laboratory 3 hours lecture and 3 hours laboratory

ENGR. 103 DIGITAL COMPUTER PROGRAMMING 3 credits
This course is devoted to the techniques of preparing and programming scientific and business problems for the IBM 1800 digital computer The fundamentals of the FORTRAN compiler language is treated, which includes Input, Output, Branching, Looping, Array, Dimension, and Decision-making statements. Application of prepared scientific subroutines. Students are required to prepare their programs on punched cards which are acceptable to the computer 2 hours lecture and 3 hours of laboratory per week

ENGR. 104 NUMERICAL ANALYSIS 3 credits
(Prerequisite Math 22) Introduction to numerical analysis through a treatment of selected topics such as finite differences, divided differences, polynomial approximation, iteration, curve fitting, numerical integration, predictor-corrector methods for solving ordinary differential equations. In addition to three hours of lecture per week, the student will be required to program selected problems in the FORTRAN language and process these problems by computer.

ENGR. 105 COMPUTER SYSTEMS, CONCEPTS AND TECHNIQUES 3 credits
(Prerequisite: Engineering 103) A survey of the development of computer hardware, operating systems, and peripheral devices. The problems arising from third generation equipment. Operating systems, input-output queuing, linkage conventions, spooling, multiprogramming, pagine, high-speed printing, interrupt philosophy and the design philosophy of several computer manufacturers. 2 hours lecture and 2 hours of computer laboratory per week.

DEPARTMENT OF ENGLISH

DR. PASSON, Chairman

The aim of the Department of English is to furnish the student with a balanced program in English which will realize the objectives of a liberal arts college. This program has a threefold overall objective: the practical development of the communication skills of the individual; the practical development of his critical and analytical ability, and his cultural development.

All students are required to take English 5-6, and English 21-22. To major in English the following courses are required: either English 133 or 134; English 135; either English 136 or 137; and English 145. The remaining twelve hours of credit should include at least one course from each of the following course groupings. A). English 136, 137, 138; B) English 139, 140, 141, C). English 142, 143, 144, and D). English 146, 147, 148. Those majors who are preparing to teach at the secondary school level may substitute English 125 for one of the "group" courses. Senior English majors in the Honors Program may substitute the Senior Honors Tutorials, English 191-192, for two of the "group" courses. In the first semester of senior year, a written comprehensive examination will be demanded of all English majors. A prescribed reading list for this examination will be furnished to all in ample time.

DEVELOPMENTAL READING
Required of students who show deficiency in reading. No credit—Fee $50.00.

ENGL. 5 EXPOSITORY WRITING 3 credits
A study of the techniques and practice of exposition. Frequent themes will be required; where necessary there will be a review of basic writing skills. Models of literary exposition will be studied.

ENGL. 6 INTRODUCTION TO LITERATURE 3 credits
A study of the major literary types: prose fiction, poetry, and drama. Relevant examples will be analyzed to develop critical techniques and a critical vocabulary. Writing assignments will be critical in nature.

ENGL. 21 ENGLISH LITERATURE, 450-1800 3 credits
A study of English Literature from **Beowulf** to the beginnings of the Romantic Movement. The emphasis is textual rather than historical. All writing assignments will be critical in nature.

ENGL. 22 ENGLISH LITERATURE, 1800 TO THE PRESENT DAY 3 credits
A study of English Literature from Romantic Period to the middle of the Twentieth century. The emphasis again is textual and critical. Writing assignments will be critical in nature.

ENGL. 125 ADVANCED COMPOSITION 3 credits
The inter-relationship of grammar, logic, rhetoric, semantics and criticism in the communication of ideas.

ENGL. 131 & 132 MASTERWORKS OF WESTERN CIVILIZATION 6 credits
Study of masterpieces of literature, from the Hebrew Old Testament and classic Greek to the modern European, to illustrate the development of Western civilization.

ENGL. 133 PRACTICAL CRITICISM 3 credits
A study of the principles of literary criticism and their application to selected works of literature.

ENGL. 134 THE ENGLISH LANGUAGE 3 credits
A study of the development of the English language to the present day, with an introduction to the science of linguistics.

ENGL. 135 CHAUCER AND THE MIDDLE AGES 3 credits
A study of the works of Geoffrey Chaucer, with particular emphasis on his Canterbury Tales; Piers Plowman; the Medieval drama, and Malory.

ENGL. 136 SHAKESPEARE (TRAGEDIES) 3 credits
Critical and appreciative study of five major tragedies and five of the principal chronicle plays.

ENGL. 137 SHAKESPEARE (COMEDIES) 3 credits
Critical and appreciative study of the major comedies and of the comic sequences in the chronicle plays.

ENGL. 138 LITERATURE OF THE 16th CENTURY 3 credits
A study of the major literary figures of the 16th Century: Wyatt, Surrey, Sidney, Spenser, and the Tudor playwrights.

ENGL. 139 17th CENTURY POETRY: THE METAPHYSICALS AND MILTON 3 credits
A study of the works of the metaphysical poets, with emphasis on John Donne, and of the major poems of Milton

ENGL. 140 THE AUGUSTAN AGE 3 credits
A survey of the literature of England from 1660 to 1750 Dryden, Pope, Swift, Addison, and Steele

ENGL. 141 JOHNSON AND HIS CIRCLE 3 credits
A study of the literature of the second half of the 18th Century Johnson, Boswell, the pre-Romantics, and the beginnings of the English novel

ENGL. 142 THE ROMANTIC PERIOD 3 credits
A study of the poetry of Wordsworth, Coleridge, Byron, Shelley, and Keats.

ENGL. 143 VICTORIAN PROSE AND POETRY 3 credits
Critical and appreciative study of the outstanding authors of the Victorian period

ENGL. 144 THE ENGLISH NOVEL: RICHARDSON TO HARDY 3 credits
A study of the development of the English novel from its 18th Century beginnings to Thomas Hardy

ENGL. 145 AMERICAN LITERATURE TO 1900 3 credits
A survey of the work of major American authors from the Colonial period through the 19th Century

ENGL. 146 MODERN BRITISH AND AMERICAN POETRY 3 credits
Study of major British and American poets Frost, Williams, Stevens, Marianne Moore, Eliot, Dylan Thomas, Yeats

ENGL. 147 MODERN BRITISH AND AMERICAN DRAMA 3 credits
A study of British drama from the time of the Irish dramatic revival, and of American drama from O'Neill to the present

ENGL. 148 MODERN BRITISH AND AMERICAN NOVEL 3 credits
A study of British and American fiction from 1900 to the present

ENGL. 191 & 192 GUIDED INDEPENDENT STUDY Variable credit
A tutorial program open to Sophomore and Junior Honors students only Content determined by mentor Maximum enrollment in any tutorial—3 students

ENGL. 195 & 196 SENIOR HONORS TUTORIAL Variable credit
A tutorial program open only to Senior Honors [illegible] The course involves the preparation of a special [illegible] and defended orally before a Departmental [illegible] tutorial is limited to 3 students

DEPARTMENT OF HISTORY

MR. SCULLY, Chairman

The department aims: 1 to train the student in solid historical methodology, 2 to present history as the study of interdependent human activities and concrete events which have social significance, 3 to engender an intelligent and critically sympathetic understanding of various civilizations and cultures.

For the History major, History 1-2, 3 4, plus twenty four (24) credit hours from upper-division courses are required The department strongly recommends History 110, 111, 118, 119, 126, 127, and 120 or 132 as the courses best designed to give the student that comprehensiveness of understanding which constitutes one of the major aims of the department

HIST. 1 & 2 HISTORY OF THE UNITED STATES 6 credits
(History 1 is prerequisite of History 2.) The United States from the time of its European beginnings to the present, with special emphasis on the history of Pennsylvania, colonial origins to the end of the Civil War, reconstruction to the present.

HIST. 3 & 4 EUROPE, 1500 TO THE PRESENT 6 credits
European history with concentration upon the political aspects of European development The rise of national monarchies, political developments, industrialism; the new nationalism and liberalism.

HIST. 110 & 111 MEDIEVAL HISTORY 6 credits
(Prerequisite History 3-4 or by special permission of instructor) A survey of medieval political and religious institutions. The origins and diffusion of Christianity; the contribution of imperial Rome; the emergence of political authority, the spread of learning under monastic influence, the role of the Papacy; the achievements of the Crusades. Decline of the Eastern Empire, the Holy Roman Empire, the Church in the period of Innocent III, the Renaissance of the twelfth and thirteenth centuries; the decline of medieval Europe before the secularization of thought in the field of politics, economics and religion

HIST. 112 & 113 RENAISSANCE AND REFORMATION 6 credits
(Prerequisite: History 3 & 4) An intensive study of Europe from the fourteenth to the middle of the seventeenth century Humanism; the bourgeoise; breakdown of medieval unity; Protestant Revolution; Catholic Reformation; religious wars; Peace of Westphalia

HIST. 114 FRENCH REVOLUTION TO 1815 3 credits
(Prerequisite History 3 & 4) Historical antecedents, the philosophies, republicanism and the fall of the monarchy. Reign of Terror, the Directory; Napoleon, internal achievements. significance of the Spanish and Russian Campaigns, and War of Liberation

HIST. 115 EUROPE 1815–1875 3 credits
(Prerequisite History 3 & 4) The Congress of Vienna and the European restoration; Industrialism, Liberalism, Socialism, and Nationalism the revolutions of the 1840's, the unification of Italy and the German Empire Russia and the Lesser States of Europe The Third French Republic

HIST. 116 EUROPE 1875–1914 3 credits
(Prerequisite. History 3 & 4) The domestic problems confronting France, Italy, Germany, Central and Eastern Europe, and Russia Competition for colonies and markets, the growth of alliances; World War I and the Treaty of Versailles. The Russian Revolution and Communism

HIST. 117 & 118 EUROPE IN ITS WORLD SETTING SINCE 1914 6 credits
(Prerequisite History 3 & 4) World War I. Treaty of Versailles, Russia becomes the U.S.S.R the European struggle for security; Italian Fascism. Rise of Nazi Germany, Asia between the two wars, World War II, loss of colonial empires in Africa and Asia, development of the Cold War. Marshall Plan and NATO.

HIST. 119 SPECIAL TOPICS IN EUROPEAN HISTORY 3 credits

(Prerequisite History 3 & 4) An analysis of selected topics in European internal history. Extensive reading and library work are required. Restricted to History majors in senior year.

HIST. 120 & 121 AMERICAN DIPLOMATIC HISTORY 6 credits

(Prerequisite History 1 & 2) The State Department and its relation to other policy forming agencies of the federal government. Diplomatic activities prior to 1789; the Louisiana Purchase, War of 1812, the Monroe Doctrine, Manifest Destiny, Pan Americanism, Cuba and the Caribbean, World War I, problems in the inter bellum period, today's challenges and attempted solutions. United Nations Organization.

HIST. 122 & 123 AMERICAN CONSTITUTIONAL AND LEGAL HISTORY 6 credits

(Prerequisite History 1 & 2) The juridical concepts of the colonial and revolutionary periods, backgrounds of the Federal Convention, the nature of the Constitution, its interpretation by Marshall and Taney. The constitutional problems occasioned by the Civil War, the new amendments, the role of the States in a Federalist system. Key cases will be analyzed in detail and set in their proper historical perspective.

HIST. 124 & 125 AMERICAN POLITICAL AND SOCIAL THOUGHT 6 credits

(Prerequisite History 1 & 2) An inquiry into the major philosophies which helped shape our institutions. Puritan concepts, views of the independents, pre Revolutionary society and thought and the notion of independence, the Constitution as it represents a compromise between the conservative and liberal traditions; Jeffersonian and Jacksonian democracy, social, economic, and political ramifications of the slavery question. Triumph of the nationalist view, recent tendencies, liberty in American society.

HIST. 126 & 127 AMERICAN CIVILIZATION 6 credits

(Prerequisite History 1 & 2) An analysis of leading economic, social and cultural aspects of American life. The economic, religious and intellectual bases of colonial American life, impact of the Revolution, sectional differences, growth of democracy and the reform movements. The growth of industry, agriculture and the agrarian discontent, the disappearance of the frontier, labor and immigration, literature and the arts, religious tendencies, diffusion of knowledge.

HIST. 128 & 129 SPECIAL TOPICS IN AMERICAN HISTORY 6 credits

(Prerequisite History 1 & 2) An analysis of selected topics in American political internal history from the Colonial Period to the end of the Nineteenth Century. Extensive readings are required. Restricted to History majors in senior year.

HIST. 130 & 131 TWENTIETH CENTURY UNITED STATES 6 credits

(Prerequisite History 1 & 2) An intensive study of American development from 1900 to the present. Stress will be placed on the Roosevelt Era and its Progressivism, Wilson's New Freedom, diplomacy of the First World War, the return to normalcy, the Great Depression and the New Deal, Roosevelt and world politics, and origins and consequences of World War II.

HIST. 132 CO-ORDINATING SEMINAR 3 credits

Intensive readings and reports on selected problems in American or European history. In all discussions an attempt will be made to integrate information in such terms as will give a unified picture of American or European life and institutions. Open only to senior History majors or by special permission of the Chairman of the Department.

HIST. 135 EUROPEAN HISTORY 1648-1789 3 credits

Study of the major political, social, economic and intellectual movements in Europe from the rise of royal absolutism until the outbreak of the French Revolution.

HIST. 140 ENGLAND 1066 TO 1688 3 credits

usion of Anglo Saxon and Norman institutions; Plantagenet period; Hundred Years War, Tudor absolutism, Henry VIII and Reformation, Elizabeth I, Renaissance and Elizabethan literature; the Stuarts, Colonialism, Commonwealth, Restoration, Revolution of 1688.

HIST. 141 ENGLAND 1688 TO PRESENT 3 credits

Results of 1688, Parliamentary rule, Cabinet government, Political parties, Industrial revolution, 19th Century reforms, building of a British Empire, World War I problems of readjustment, World War II, end of Imperialism.

HIST. 142 ENGLISH CONSTITUTIONAL AND LEGAL HISTORY TO 1485 3 credits

Anglo-Saxon basis; fusion of Anglo-Saxon and Norman political institutions; Angevin innovations; Magna Carta, concept of representation, beginnings of the Common Law, jury system; content for government, emergence of Parliament, the refinement of government.

HIST. 143 ENGLISH CONSTITUTIONAL AND LEGAL HISTORY 1485 TO PRESENT 3 credits

Tudor absolutism, struggle between royal prerogative and Parliament, rise of House of Commons; Parliamentary supremacy after 1688, development of Cabinet government, democratic reforms, Parliamentary Bill of 1911; extension of administrative law.

HIST. 150 & 151 HISTORY OF IMPERIAL RUSSIA AND THE SOVIET UNION 6 credits

(Prerequisite: History 3 & 4) From the crystallization of political forms in the 9th Century through the Kievan State, Rise of Muscovy, Empire, Revolution of 1917 and the U.S.S.R. to the end of World War II. A critical analysis of the political, cultural, spiritual and psychological factors in Russian History.

HIST. 161 & 162 LATIN AMERICAN HISTORY 6 credits

(Prerequisite: History 1 & 2; 3 & 4) Pre-Colombian America, the Spanish and Portuguese colonial era, developments to the early Nineteenth Century. The Latin American Republics, Castroism, The Alliance for Progress, with special stress on inter-American problems.

HIST. 191 & 192 GUIDED INDEPENDENT STUDY Variable credit

A tutorial program open to junior Honors students only. Content determined by mentor. Maximum enrollment 3 students.

HIST. 195 & 196 SENIOR TUTORIAL Variable credit

A tutorial program open only to senior Honors students majoring in History. The course involves the preparation of a special project which is reported in writing and defended orally before the faculty of the department.

DEPARTMENT OF MATHEMATICS

MR. BEIDLER, Chairman

For the Arts and Social Science students the objectives of the department are: 1. to train the students in the basic and necessary skills of mathematics which will be required in non technical pursuits; 2. to bring out the cultural and applied values of mathematics; and 3. to show the dependence of other branches of knowledge on mathematics. In addition, in the instruction of engineering and science students for whom mathematics is a tool subject, the objectives of the department are: 1. to develop skill and accuracy in mathematical operations; and 2. to familiarize the students with the methods of mathematical analysis. Finally, for those students who show special aptitude for mathematics it is the objective of the department to prepare them to pursue advanced work in this field.

A student may major in mathematics either in the A.B. sequence or the B.S. sequence. The requirements for a major within the A.B. sequence include the following courses: Mathematics 13-14, 21-22, 101 plus twelve additional upper division credits in mathematics.

The requirements for a major in mathematics within the B.S. sequence include Physics 11-12; 21, 24, Mathematics 14, 21-22; plus twenty-four additional upper-division credits in mathematics.

Students who have taken advanced work in high school covering the matter presented in Mathematics 13-14 may be advanced either one semester or a whole year on the basis of a qualifying examination given by the University. For advancement beyond this, the student must take the Advanced Placement Examination in Mathematics administered by the College Entrance Examination Board.

MATH. 7 & 8 FINITE MATHEMATICS 6 credits

A terminal course covering a modern treatment of finite mathematics with applications in the social and management sciences.

MATH. 13 FRESHMAN MATHEMATICS 4 credits

An intensified course covering the topics of algebra and trigonometry.

MATH. 14 ANALYSIS I 4 credits

The beginning of a twelve credit sequence covering the topics of analysis.

MATH. 21 & 22 ANALYSIS II & III 8 credits

(Prerequisite: Mathematics 14, or equivalent) An integrated course covering the topics of calculus using modern methods.

DEPARTMENT OF MILITARY SCIENCE

MAJ. MILLETT, Acting Chairman

The primary objective of the ROTC program is to produce junior officers who, by their education, training and inherent qualities, are suitable for continued development as Regular or Reserve Officers in the United States Army.

All entering Freshmen who are between the ages of 17 and 24, U.S. Citizens, and physically qualified, may enter the Basic Course. Non-Citizens may apply for enrollment under certain conditions. Students entering MS 1, 2 are normally expected to continue in the program and elect MS 21, 22. Should the international situation warrant this action, these Basic Course cadets may be given a 1D (Reserve) draft classification after completing the first quarter's work.

Enrollment in the Advanced Course is selective. On successful completion of The Advanced Course, which includes a six week ROTC summer camp at the end of the Junior year, and upon graduation from the University, the cadet is offered a Regular Army or a Reserve Commission. The commissions offered may be in any branch of the Army, based on the student's choice, his educational background, and the needs of the service.

Military Science students must pay a $10 refundable deposit for the uniform issue. There is no charge for uniforms, Military Science courses or textbooks. Advanced Course and scholarship cadets, however, are required to pay a $10 non-refundable activity fee. Each Advanced Course student receives $50 per month while in school and approximately $200 per month plus travel expenses while at Summer Camp.

MATH. 100 INTERMEDIATE ANALYSIS 3 credits
(Prerequisite: Mathematics 22) A rigorous treatment of sequences, series, and functions of several variables using the concepts of topology

MATH. 101 DIFFERENTIAL EQUATIONS 4 credits
(Prerequisite Mathematics 22) A treatment of ordinary differential equations with applications.

MATH. 102 VECTOR ANALYSIS 3 credits
(Prerequisite Math. 22) The theory of vectors and their applications to the solution of mathematical and physical problems

MATH. 103 ADVANCED DIFFERENTIAL EQUATIONS 3 credits
(Prerequisite. Mathematics 101) The treatment of special differential equations and partial differential equations and their applications.

MATH. 104 STATISTICAL ANALYSIS 3 credits
(Prerequisite: Mathematics 22) Curve plotting, frequency curves, averages, measures of dispersion, theory of correlation Applications to the natural and social sciences.

MATH. 105 GEOMETRY 3 credits
Euclidean and projective geometry Transformations and Invariants.

MATH. 106 & 107 ADVANCED ANALYSIS 6 credits
A continuation of the calculus beyond infinite series It will include implicit function theory, Fourier series, gamma functions, Bessel functions, Laplace transformations, complex variables, and calculus of variations.

MATH. 108 MODERN ALGEBRA 3 credits
(Prerequisite: Mathematics 22 or permission of department head) Fundamental ideas and properties of groups, rings, fields, polynomials over a field

MATH. 111 LINEAR ALGEBRA 3 credits
(Prerequisite Mathematics 108) Vectors, n-dimensional vector space. Determinants, matrices. Transformations, quadratic forms and applications in 3-space

MATH. 113 & 114 MATHEMATICS SEMINAR Variable credit
(Permission of the department head required) Designed to allow the student of demonstrated ability to cover topics of modern mathematics with or without benefit of formal lectures.

MATH. 115 THESIS Variable credit
(Prerequisite: 24 credits in mathematics) A student's results of the investigation of a specific mathematical topic.

MATH. 191 & 192 GUIDED INDEPENDENT STUDY Variable Credit
A tutorial program open to junior Honors students only. Content determined by mentor. Maximum enrollment 3 students.

MATH. 195 & 196 SENIOR TUTORIAL Variable credit
A tutorial program open only to senior Honors students majoring in mathematics. The course involves the preparation of a special project which is reported in writing and defended orally before the faculty of the department

The Army Scholarship Program (see p. 96) is designed to offer financial assistance to outstanding young men in the four year Army ROTC program who are interested in the Army as a career Each Scholarship provides for free tuition, textbooks and laboratory fees in addition to paying a subsistence allowance of $50 per month for the period the Scholarship is in effect. Students who volunteer for ROTC training, if selected by the President of the University and the Professor of Military Science, may apply for the one, two or three year scholarship program.

Interested Sophomores, who did not elect the Basic Course, may apply to the Professor of Military Science, not later than 10 February, for admission to the Two-Year ROTC Program .

M. S. 1 & 2 MILITARY SCIENCE I 2 credits
The United States Defense Establishment: Organization of the Army and ROTC; individual weapons and marksmanship; United States Army and National Security School of the soldier and exercise of command.

M. S. 21 & 22 MILITARY SCIENCE II 4 credits
(Prerequisite M. S. 1 and 2, or the equivalent) Introduction to tactics and operations: Map and aerial photograph reading; basic tactics. American military history. School of the soldier and exercise of command.

M. S. 101 & 102 MILITARY SCIENCE III 6 credits
(Prerequisite. M. S. 1-2 and 21-22, or the equivalent) Leadership and Management I: Leadership; military teaching principles; branches of the Army Fundamentals and Dynamics of Military Team I: Small Unit tactics; communications; ROTC summer camp orientation; Counter-insurgency. School of the soldier and exercise of command.

M. S. 121 & 122 MILITARY SCIENCE IV 6 credits
(Prerequisite. M. S. 101-102) Leadership and Management II: Army administration; military justice; the Army readiness program, service orientation; the role of the United States in World Affairs. Fundamentals and Dynamics of the Military Team II: Staff organization and teamwork; operations; logistics. School of the soldier and exercise of command.

NOTE: Credits for M. S. 101-102 and M. S 121-122 may not be substitued as electives in other degree programs

DEPARTMENT OF MODERN LANGUAGES

MR. CIMINI, Chairman

Courses in Modern Languages undertake 1. to give the student the requisite skills in reading, writing, and speaking foreign languages, 2. to train the student in logic and precision of thought and expression through a comparative study of his own and a foreign language, 3. to develop the student's aesthetic appreciation and critical ability through reading of the best foreign authors, 4. to give an insight into the evolution of European and Latin American thought, history and culture as reflected in literature.

A major in a modern foreign language requires the completion of the intermediate course (6 credits) or its equivalent, the advanced language requirement (6 credits), plus 24 credits in upper-division courses. It is recommended that modern language majors take at least 12 credits in a second foreign language. The placement of students in foreign language and permission to take language courses in summer school are the responsibility of the department.

Potential teacher candidates of a modern language are required to take the Modern Language Proficiency Test in their junior or senior year. A candidate failing such a requirement will be eligible for graduation since he has completed all course work, but will not receive the endorsement of the Modern Language Department unless he has accomplished remedial work to its satisfaction.

Modern Language students are invited to take advantage of foreign language courses at Marywood College offered in cooperation with the University. Students will make application through the chairman of the Modern Language Department at the University.

FRENCH

FRENCH 1 & 2 ELEMENTARY FRENCH 6 credits

A course designed to impart a good basic foundation in comprehending, speaking, reading, and writing of the French language. Designed primarily for students with no or insufficient background in the French language. Meets four hours a week or equivalent. Prerequisite none.

FRENCH 11 & 12 INTERMEDIATE FRENCH 6 credits

An intensive audio-visual course of the advanced elements of the spoken and the written French language. A course designed primarily for students with previous training in the French language, but not sufficient to be enrolled in the regular intermediate French course. Meets six hours a week, or equivalent. Prerequisite at least two years of high school French, or equivalent. (Additional $50.00 fee per semester)

FRENCH 23 & 24 INTERMEDIATE FRENCH 6 credits

A course designed to give greater scope and depth to the student's knowledge of the grammar and style of the French language, with readings of original works selected from French literature. Meets four hours a week or equivalent. Prerequisites: French 1 & 2, or equivalent.

FRENCH 101 & 102 ADVANCED FRENCH COMPOSITION AND CONVERSATION 6 credits

An intensive course in French composition and conversation with emphasis on detailed study of advanced grammatical and stylistic usage of the French language. Meets three hours a week, or equivalent, and one hour weekly independent practice in the language laboratory. Prerequisites: French 23 & 24, or equivalent.

FRENCH 111 & 112 SURVEY OF FRENCH LITERATURE 6 credits

A survey of French literature from the Chanson de Roland to the contemporary period. Meets three hours a week, or equivalent, and a one hour weekly independent practice in the language laboratory. Prerequisites: French 101 & 102, or equivalent.

FRENCH 113 & 114 SURVEY OF FRENCH CULTURE AND CIVILIZATION 6 credits

An advanced survey of the political, military, philosophical, artistic, literary, scientific, and cultural progress of French society from the Roman Occupation until today. Conferences and discussions exclusively in French, oral and written reports. Meets three hours a week, or equivalent, and a one hour weekly independent practice in the language laboratory. Prerequisites: French 101 & 102, or equivalent.

FRENCH 121 FRENCH LITERATURE OF THE MIDDLE AGES 3 credits

A study of Old French literature from the Chansons de geste to the advent of the Renaissance. Meets three hours a week, or equivalent, and one hour weekly independent practice in the language laboratory. Prerequisites: French 101 & 102, or equivalent.

FRENCH 131 FRENCH LITERATURE OF THE XVIth CENTURY 3 credits

A study of French prose and poetry, with emphasis given to such writers as Rabelais, Marot, Ronsard, Dubellay. Meets three hours a week, or equivalent, and a one hour weekly independent practice in the language laboratory. Prerequisities: French 101 & 102, or equivalent.

FRENCH 141 FRENCH LITERATURE OF THE XVIIth CENTURY 3 credits

A survey of French literary and philosophical expression from 1610 to 1715. Meets three hours a week, or equivalent, and a one hour weekly independent practice in the language laboratory Prerequisites: French 101 & 102, or equivalent.

FRENCH 151 FRENCH LITERATURE OF THE XVIIIth CENTURY 3 credits

The course of the French Enlightenment from the libertines to the Revolution 1789 Meets three hours a week, or equivalent, and a one hour weekly independent practice in the language laboratory Prerequisites. French 101 & 102, or equivalent.

FRENCH 161 THE FRENCH NOVEL OF THE XIXth CENTURY 3 credits

The emergence of the novel as a literary genre in 19th Century France. Meets three hours a week, or equivalent, and a one hour weekly independent practice in the language laboratory. Prerequisites: French 101 & 102, or equivalent

FRENCH 162 FRENCH POETRY OF THE XIXth CENTURY 3 credits

A study of representative French poets from Romanticism to Naturalism Meets three hours a week, or equivalent, and a one hour weekly independent practice in the language laboratory Prerequisites: French 101 & 102, or equivalent.

FRENCH 171 THE FRENCH NOVEL OF THE XXth CENTURY 3 credits

Survey and study of important novelists from the Dreyfus Affair until today Meets three hours a week, or equivalent, and a one hour weekly independent practice in the language laboratory. Prerequisites: French 101 & 102, or equivalent.

FRENCH 172 FRENCH POETRY OF THE XXth CENTURY 3 credits

An intensive study of contemporary French poetry from the beginning of our century until today. Meets three hours a week, or equivalent, and a one hour weekly independent practice in the language laboratory Prerequisites: French 101 & 102, or equivalent.

FRENCH 173 MODERN FRENCH THEATER 3 credits

A study of selected plays and trends of the French theater from Antoine's Theatre libre until the present day. Meets three hours a week, or equivalent, and a one hour weekly independent practice in the language laboratory Prerequisites. French 101 & 102, or equivalent.

FRENCH 181 HISTORY OF THE FRENCH LANGUAGE 3 credits

A methodical historical study of the development of the French language and its relation with other Indo-European languages, particularly with Latin, Italian, Spanish, German, and English Short introduction to general comparative linguistics Meets three hours a week, or equivalent, and a one hour weekly independent practice in the language laboratory. Prerequisites: French 101 & 102, or equivalent.

FRENCH 191 & 192 GUIDED INDEPENDENT STUDY Variable credit

A tutorial program open to junior Honors students only. Content determined by mentor Maximum enrollment three students. Prerequisites: French 23 & 24, or equivalent, but with preference to French 101 & 102, or equivalent.

FRENCH 195 & 196 SENIOR TUTORIAL Variable credit

A tutorial program open only to senior Honors students majoring in French The course involves the preparation of a special project which is reported in writing and defended orally before the faculty of the department. Content determined by mentor.

GERMAN

GERMAN 1 & 2 ELEMENTARY GERMAN 6 credits

A complete course in the fundamentals of the German language. Emphasis on reading of graded texts, with written, oral and aural exercises. Designed primarily for students with no or insufficient background in the German language Meets four hours a week, or equivalent. Prerequisite none.

GERMAN 11 & 12 INTERMEDIATE GERMAN 6 credits

An intensive audio-visual course of the advanced elements of the spoken and the written German language A course designed primarily for students with previous training in the German language, but not sufficient to be enrolled in the regular intermediate German course. Meets six hours a week, or equivalent Prerequisite: at least two years of high school German, or equivalent ($50.00 fee per semester).

GERMAN 23 & 24 INTERMEDIATE GERMAN 6 credits

Reading from modern authors of moderate difficulty Oral and written exercises. Systematic review of German grammar. Meets four hours a week, or equivalent Prerequisite: German 1 & 2, or equivalent

GERMAN 101 & 102 ADVANCED GERMAN CONVERSATION AND COMPOSITION 6 credits

Selected texts in prose and poetry Advanced practice in conversation and composition. Survey of German grammar. Meets three hours a week, or equivalent, and a one hour weekly independent practice in the language laboratory Prerequisite German 23 & 24 or equivalent

GERMAN 111 & 112 SURVEY OF GERMAN LITERATURE 6 credits

A survey of German literature from the eleventh century to the contemporary period, with special emphasis on the main intellectual currents as well as the social and political developments. Collateral reading of representative works by important authors. Meets three hours a week or equivalent, and a one hour weekly independent practice in the language laboratory Prerequisite. German 101 & 102 or equivalent.

GERMAN 113 & 114 SURVEY OF GERMAN CIVILIZATION 6 credits

Selected readings of representative essays by major philosophers, scientists, historians and related self-analysis by major writers. Discussions, oral and written reports. Meets three hours a week or equivalent, and a one hour weekly independent practice in the language laboratory. Prerequisite: German 101 & 102 or equivalent.

GERMAN 151 THE AGE OF FREDERICK THE GREAT 3 credits

The study of German literature in the Age of Enlightenment. Reading and interpretation of representative poets and critics, e.g., Gottsched, Lessing, Herder, Klopstock. Meets three hours a week or equivalent, and a one hour weekly independent practice in the language laboratory. Prerequisite: German 101 & 102 or equivalent.

GERMAN 152 GOETHE AND THE WEIMAR CIRCLE 3 credits

A study of the "Sturm and Drang" and the classical reaction. Reading and interpretation of Goethe's Faust (Pt. I and the selections of Pt. II), Iphigenie, Schiller's Wilhelm Tell, etc. Oral and written reports. Meets three hours a week or equivalent, and a one hour weekly independent practice in the language laboratory. Prerequisite: German 101 & 102 or equivalent.

GERMAN 161 XIX CENTURY LITERATURE 3 credits

A study of the principal trends in contemporary German literature. Selected readings in prose and poetry. Written reports on selected novels and important critical works. Meets three hours a week or equivalent, and a one hour weekly independent practice in the language laboratory. Prerequisite: German 101 & 102 or equivalent.

GERMAN 171 XX CENTURY LITERATURE 3 credits

A study of the principal trends in contemporary German literature. Selected readings in prose and poetry. Written reports on selected novels and important critical works. Meets three hours a week or equivalent, and a one hour weekly independent practice in the language laboratory. Prerequisite: German 101 & 102 or equivalent.

GERMAN 181 HISTORY OF THE GERMAN LANGUAGE 3 credits

Historical study of German language and its relations with other Indo-European languages, particularly with English. Brief introduction to comparative linguistics. Meets three hours a week or equivalent, and a one hour weekly independent practice in the language laboratory. Prerequisite: German 101 & 102 or equivalent.

GERMAN 191 & 192 GUIDED INDEPENDENT STUDY Variable credit

A tutorial program open to junior Honors students only. Content determined by mentor. Maximum enrollment 3 students. Prerequisite: German 23-24 or equivalent, but with preference to German 101 & 102, or equivalent.

GERMAN 195 & 196 SENIOR TUTORIAL Variable credit

A tutorial program open only to senior Honors students majoring in German. The course involves the preparation of a special project which is reported in writing and defended orally before the faculty of the department.

SPANISH

SPANISH 1 & 2 ELEMENTARY SPANISH 6 credits

Fundamentals of grammar, drill in pronunciation, conversation, easy readings and written exercises. Designed primarily for students with no or insufficient background in the Spanish language. Meets four hours a week, or equivalent. Prerequisite: none.

SPANISH 11 & 12 INTERMEDIATE SPANISH 6 credits

An intensive audio-visual course of the advanced elements of the spoken and the written Spanish language. A course designed primarily for students with previous training in the Spanish language, but not sufficient to be enrolled in the regular intermediate Spanish course. Meets six hours a week, or equivalent. Prerequisite: at least two years of high school Spanish, or equivalent ($50.00 fee per semester).

SPANISH 23 & 24 INTERMEDIATE SPANISH 6 credits

Grammatical review, written and oral composition. Selected cultural readings of intermediate difficulty. Meets four hours a week, or equivalent. Prerequisites: Spanish 1 & 2, or equivalent.

SPANISH 101 & 102 ADVANCED COMPOSITION AND CONVERSATION 6 credits

A thorough study of Spanish grammar, composition, oral and written, with aim of developing ability to write clear and fluent Spanish. Practice in oral composition. Meets three hours of week, or equivalent, and a one hour weekly independent practice in the language laboratory. Prerequisites: Spanish 23 & 24, or equivalent.

SPANISH 111 & 112 SURVEY OF SPANISH CIVILIZATION 6 credits

A survey of the political, artistic, literary and scientific progress of Spain, with readings of each period. Meets three hours a week, or equivalent, and a one hour weekly independent practice in the language laboratory. Prerequisites: Spanish 101 & 102, or equivalent.

SPANISH 113 & 114 SPANISH-AMERICAN CULTURE AND CIVILIZATION 6 credits

The social, artistic, literary and political development of Spanish America, with special emphasis on its unifying features: Language, Religion and Historical background. Meets three hours a week, or equivalent, and a one hour weekly independent practice in the language laboratory. Prerequisites: Spanish 101 & 102, or equivalent.

SPANISH 115 & 116 HISTORY OF SPANISH LITERATURE 6 credits

Study of Spanish literature from Cantar de Mio Cid to XX century, with emphasis on main literary currents in each century. Lectures in Spanish. Meets three hours a week, or equivalent, and a one hour weekly independent practice in the language laboratory. Prerequisites: Spanish 101 & 102, or equivalent.

SPANISH 131 & 132 THE GOLDEN AGE 6 credits

The development of the novel, with the culmination of all forms in Cervantes; and of the drama, reaching its perfection in De Vega and Calderon. Meets three hours a week, or equivalent, and a one hour weekly independent practice in the language laboratory. Prerequisites: Spanish 101 & 102, or equivalent.

SPANISH 161 & 162 THE MODERN SPANISH NOVEL 6 credits
The Short Story and the Novel in Spain in the late 19th and early 20th centuries. Meets three hours a week, or equivalent, and a one hour weekly independent practice in the language laboratory. Readings of most important authors and works. Lectures and discussions in Spanish. Prerequisites: Spanish 101 & 102, or equivalent.

SPANISH 163 & 164 THE LATIN AMERICAN NOVEL 6 credits
An examination of the esthetic, cultural and social aspects of prose fiction in Latin America over the past two hundred years. Meets three hours a week, or equivalent, and a one hour weekly independent practice in the language laboratory. Prerequisites: Spanish 101 & 102, or equivalent

SPANISH 165 & 166 THE GENERATION OF 1898 6 credits
Thorough examination of the movement, its political, historical, and social background. Ganivet, Unamuno, Azorin, etc. Meets three hours a week, or equivalent, and a one hour weekly independent practice in the language laboratory. Prerequisites: Spanish 101 & 102, or equivalent

SPANISH 191 & 192 GUIDED INDEPENDENT STUDY Variable credit
A tutorial program open to sophomore and junior Honors students only. Content determined by mentor. Maximum enrollment three students. Prerequisites: Spanish 23 & 24, or equivalent, but with preference to Spanish 101 & 102, or equivalent

SPANISH 195 & 196 SENIOR TUTORIAL Variable credit
A tutorial program open only to senior Honors students majoring in Spanish. The course involves the preparation of a special project which is reported in writing and defended orally before the faculty of the department. Content determined by mentor

ITALIAN (offered at Marywood College)

ITALIAN 1 & 2 ELEMENTARY ITALIAN 6 credits
A course in Italian for beginners. Principles of Italian grammar, drill in pronunciation; conversation and easy readings.

ITALIAN 23 & 24 INTERMEDIATE ITALIAN 6 credits
(Prerequisite: Italian 1 & 2, or equivalent) Selected modern readings of intermediate difficulty. Written and oral composition.

RUSSIAN (offered at Marywood College)

RUSSIAN 1 & 2 ELEMENTARY RUSSIAN 6 credits
Principles of the grammar of Great Russian. Aim: a speaking and written knowledge of standard Russian by reading, conversation, and written and oral exercises.

RUSSIAN 23 & 24 INTERMEDIATE RUSSIAN 6 credits
(Prerequisite: Russian 1-2 or equivalent) Further vocabulary building, review grammar, oral and written exercises and composition, enlarged reading ability based on graded texts and selected modern prose of intermediate difficulty

DEPARTMENT OF PHILOSOPHY

DR. FAIRBANKS, Chairman

The University of Scranton requires of all undergraduates a complete program of philosophy as an essential element in its integrated core curriculum of liberal education. The purpose is mainly to introduce the student to the basic problems of man's existence in the universe, to investigate with the aid of intelligence and reasoning alone the origin, nature, value and destiny of the human person and to unfold the fundamental structure within which each person must exercise his freedom individually and socially if he is going to achieve his proper development and happiness as a human being. The means employed in this enterprise are the method and principles of Scholastic philosophy as developed primarily by Plato, Aristotle, St. Augustine and St. Thomas, complemented by cursory reviews of the major insights of other great philosophers of the Western World. In this way the University hopes to prepare every student not only to understand the basic human problems of our time but also, in his own way and in his own chosen field, to make some contribution toward their solution

All candidates for undergraduate degrees, therefore, must take 18 credits of philosophy in the following sequence: Phil. 23, 24, 110; all juniors must elect in the second semester one course of 3 credits in special ethics (Phil. 130-135); seniors will elect one course each semester from the remaining listed elective courses.

In addition to the above 18 credits, majors in philosophy must take the following courses: 113, 114, 121, 122 and ONE of the following: 117, 123, 124, 125, 128 OR 142. They must also choose three other courses for a grand total of 42 credits. Honor students in philosophy may substitute in senior year the Senior Honors Tutorials, Phil. 191-192 for two of their elective courses.

PHIL. 23 PHILOSOPHICAL ANTHROPOLOGY I 3 credits
A philosophical analysis of the meaning of man in terms of basic metaphysical principles. Man's vegetative, cognitive, appetitional and emotional life, including the meaning of human love and friendship, will be examined. Required of all sophomores.

PHIL. 24 PHILOSOPHICAL ANTHROLOGY II 3 credits
A continuation of the subject matter of Phil. 23, investigating man's motivational and psychosomatic life and the meaning of the human person in the light of selected existential themes. Concludes with a study of man in relation to the problem of God as evolved in recent contemporary thought Required of all sophomores.

PHIL. 106 PHILOSOPHY OF EDUCATION 3 credits
An examination of representative modern systematic philosophies of education with a critical analysis of the answers that each system of philosophy provides to the important questions concerning the nature of knowledge, of value, of man and of society. Specific problems which arise in the study of the aims and practices of education will be analyzed according to theories of the philosophical systems examined.

PHIL. 107 PHILOSOPHY OF LAW 3 credits
A study of the various justifications of law and their implications. Special consideration will be given to the problems of civil disobedience and the force of law in private institutions.

PHIL. 109 PHILOSOPHY OF HISTORY 3 credits
A study of the key concepts which influence our understanding of the historical process. Special consideration will be given to the thought of St. Augustine, Hegel, Toynbee and Teilhard de Chardin.

PHIL. 110 PHILOSOPHY OF HUMAN CONDUCT 3 credits
(Prerequisite. Philosophy 23 24) The nature and ethical implications of freedom of choice and its psychological modifiers An investigation of the basic meaning and function of conscience, the moral good, man's fulfillment as a person, the norm of morality and natural law The origin and meaning of human rights Required of all juniors

PHIL. 112 PHILOSOPHY OF RELIGION 3 credits
The human experience of the radical negation of the divine in existential philosophy. Evolutionary philosophy and the concepts of divine transcendence and immanence. Contributions of American philosophy to religious thought. Linguistic analysis and natural theology.

PHIL. 113 ANCIENT PHILOSOPHY 3 credits
The Pre-Socratics, Plato, Aristotle and their immediate successors. Special emphasis on the Theory of Knowledge, the Metaphysics and Philosophical Anthropology of Plato and Aristotle.

PHIL. 114 MEDIEVAL PHILOSOPHY 3 Credits
The origin and character of medieval philosophy, early Christian Philosophy, the controversary of the universals, outstanding thinkers of the early scholastic period and the influence of Islamic and Jewish philosophy. The 13th Century: Franciscan Philosophers, St. Thomas Aquinas, Averroism and Duns Scotus. The Decline: Ockham and his followers and Mysticism. The course will conclude with the Renaissance revival in Suarez.

PHIL. 117 EXISTENTIALISM 3 credits
An introduction to the origin and nature of contemporary European existentialism from Kierkegaard to the present. The works of Husserl, Heidegger, Sartre and Gabriel Marcel will be studied with an emphasis on their phenomenological method

PHIL. 118 AMERICAN PHILOSOPHY 3 credits
An introduction to the origin and nature of American Pragmatism, its European roots, Charles Sanders Pierce, William James, John Dewey The influence of pragmatism on American thought and pragmatism as an expression of the American character

PHIL. 119 PHILOSOPHY OF SCIENCE 3 credits
Seminar techniques are used to introduce the student to the fundamental ideas and current research in the philosophy of science The guiding concept is the meaning of the modern scientific method To pinpoint this method papers of the following are carefully analyzed Wright, Hempel, Oppenheim, Mill, La Place, Venn, Carnap, Ayer, Peirce, Strawson, Russell, Cassirer and Dewey

PHIL. 120 PHILOSOPHY OF BEAUTY 3 credits
A study of the main theories of the essential character of the beautiful, how it is judged (either in itself or in relation to the whole vision of the world), how it is related to the mind and to the whole man, how it is created by the artist, and how this creativity expresses his commitment to himself and to the world.

PHIL. 121 MODERN PHILOSOPHY I 3 credits
The Renaissance Background Petrarch and the humanist movement. Galileo and the beginnings of modern science. Descartes mathesis universalis, the difficulties of the Cartesian method, solution in the one substance of Spinoza British Empiricism Locke and the problem of substance, Berkeley's 'Esse est percipi', culmination in Hume and the doctrine of perceptual atomism

PHIL. 122 MODERN PHILOSOPHY II 3 credits
Leibniz Cartesian and Spinozistic heritage, the problem of universal science, the Monodology Kant influences of Leibniz, Hume and Newton; the "Copernican revolution" and 'Transcendental Criticism' Fichte's transcendental idealism and Schelling's absolute idealism Hegel and Phenomenology of Mind, reality as dialectical Survey of later trends: Schopenhauer, Nietzche, Bergson

PHIL. 123 INTRODUCTION TO CONTEMPORARY PHILOSOPHY 3 credits
The high points of this course are the major concepts of Kant, Hegel Kierkegaard, Heidegger and Sartre Some background material is offered on Fichte Marx Lenin, Nietzsche, Husserl, Jaspers, Comte, Bergson, Marcel and Merleau-Ponty Nineteenth Century philosophy and history are used as springboards to the basic philosophical ideas of the Twentieth Century

PHIL. 124 CONTEMPORARY ENGLISH AND AMERICAN PHILOSOPHY 3 credits
The major philosophers treated in this course are Russell, Whitehead and Wittgenstein along with Peirce, James and Dewey Background work is recommended in Mill, Bradley Moore, Carnap and Ayer along with Emerson, Royce and Santayana Both primary and secondary sources are used to aid the student's appreciation of the classical English and American thinkers of the Twentieth Century.

PHIL. 125 THE "DEATH OF GOD" PROBLEM 3 credits
A discussion of contemporary atheism—the cry of Nietzsche's madman, "God is dead," echoed in the works of Feurerbach, Marx, Sartre, Merleau-Ponty, Heidegger, Alitzer and Hamilton. An attempt will be made to relate this development to the rejection of a "status quo" christianity and the subsequent development of a humanistic philosophy

PHIL. 126 SYMBOLIC LOGIC 3 credits
This course explains the various systems of modern logics, their notational, canonical methodologies, their ontological assumptions, especially as these concern the foundations of mathematics and the creation of artificial languages. Methods of modern linguistic analysis, when it is applied to ordinary discourse and literature, are also introduced, especially as these have a relation to logic, syntax and semantics.

PHIL. 127 PHILOSOPHY OF LANGUAGE 3 credits
An attempt to discover the elements for a systematic statement of the relations between language, thought and reality through an investigation of ancient, medieval, modern and contemporary authors. Selected readings from Plato, Aristotle, the medievals on universals, Vico, Rousseau, Herder, logical positivism, ordinary language philosophy and phenomenology.

PHIL. 128 PHENOMENOLOGY 3 credits
An analysis of the primary works of those philosophers who have influenced the development of the phenomenological method. Special emphasis on an attempt to attain a comprehensive view of phenomenology as a methodology. Main sources will be Husserl, Heidegger, Sartre and Merleau-Ponty.

PHIL. 129 MARXISM 3 credits
A consideration of Marx's philosophical anthropology, aesthetics and epistemology with a survey of contemporary Marxism (Marcuse, Bloch, Kolakowski **et al.**) and its critics (Voegelin, Wilson, theism **et al.**).

PHIL. 130 PERSONAL AND SOCIAL ETHICS 3 credits
(Prerequisite Philosophy 110) A philosophical investigation of man's specific obligations and rights arising from his relation to God, to his own person, to his fellowmen as equals and concluding with a brief analysis of man's social nature with its implications for the family and civil society A second semester elective for juniors

PHIL. 131 POLITICAL PHILOSOPHY 3 credits
(Prerequisite: Philosophy 110) A philosophical and ethical analysis of the social nature of man with an emphasis on the modern social question social order and its reform The ethics of the family, of the nation and its lesser groups and of the community of nations, the ethics of the political community, including the sovereignty and functions of the state and state dynamics A second semester elective for juniors

PHIL. 132 MEDICAL ETHICS 3 credits
(Prerequisite: Philosophy 110) Detailed analysis of the ethical aspects of abortion, euthanasia and preservation of life, sterilization and contraception, artificial insemination, experimentation on human beings, hypnosis, electro-shock therapy and psycho-surgery Religious hospital codes physician patient relationships and spiritual care of the patient will also be examined A second semester elective for juniors; recommended for pre-medical students.

PHIL. 133 BUSINESS ETHICS 3 credits
(Prerequisite Philosophy 110) The personal and social ethics of the major areas of decision making in business principles and case work will receive equal stress A second semester elective for juniors, recommended for business majors

PHIL. 134 SITUATION ETHICS AND NATURAL LAW 3 credits
(Prerequisite Philosophy 110) A philosophical and ethical analysis of situation ethics tracing its roots in contemporary existentialist and personalist philosophies and its relationships to classical natural law ethics A second semester elective for juniors

PHIL. 135 ETHICS OF PERSONAL ENCOUNTER 3 credits
(Prerequisite Philosophy 110) After a treatment of the phenomenalogy of inter subjectivity, the course addresses itself to the question what essentially is the moral (and the immoral) encounter between individuals, between groups be tween authority and those subject to it A second semester elective for juniors

PHIL. 140 LOCKE, BERKELEY AND HUME 3 credits
A critical investigation of such concepts as idea, existence, substance, identity, causality, etc. in Locke, Berkeley and Hume as well as the relationship between faith and reason in the writings of these three thinkers and their ethical theories. Strength and weakness of empiricism.

PHIL. 141 ART AND PHILOSOPHY 3 credits
A study of different periods in the history of art as indicative of and illustrative of the contemporary philosophy of those periods. Slides of works of art will be used.

PHIL. 142 PHILOSOPHY OF CAMUS 3 credits
The fundamental themes of the Absurd and Rebellion as seen in **The Myth of Sisyphus, The Rebel, The Stranger and The Plague and the Fall of Albert Camus.** Selections from other works including his plays. Also a study of his ethics, his thirst for life and his search and enjoyment of the beautiful. Commentaries by Germaine Bree, Philip Thody, Emmet Parker and David Denton as aids to seeing Camus in the historical, political and geographical setting of North Algeria and France.

PHIL. 191 & 192 SENIOR TUTORIAL Variable credit
A tutorial program open only to senior Honors students majoring in Philosophy The course involves the preparation of a special project which is reported in writing and defended orally before the faculty of the department

DEPARTMENT OF PHYSICAL EDUCATION

MR. OCORR, Chairman

The Physical Education Department aims to improve the physical fitness level of each student and improve and increase students' recreational skills Emphasis is placed on instruction in a wide variety of popular sports, recreational and competitive athletics especially those with carry over value for post college years

Physical Education is required two periods per week through the freshman and sophomore years One credit hour is granted in Physical Education each semester

Every regularly enrolled freshman and sophomore student must satisfy the Physical Education requirement unless excused by the Physical Education Deparment This regulation applies without reference to ROTC

There will be an official physical education uniform to be purchased at the University

It is possible to be excused from Physical Education classes by application to the Physical Education Department if (a) a physican certifies that a student, for medical reasons, should not engage in vigorous physical activity, (b) a student is a Veteran; (c) a student is a member of an intercollegiate varsity or freshman team; (d) the department deems it advisable.

Grading: S—Satisfactory
U—Unsatisfactory, requiring repetition of course
These grades will not be computed in the Quality Point Index

PHYS. ED. 1 & 2 BASIC PHYSICAL EDUCATION 2 credits
Basic physical fitness and training in carry over value sports, especially volley ball, golf tennis handball badminton softball, touch football and weight training

PHYS. ED. 23 & 24 ADVANCED PHYSICAL EDUCATION 2 credits
Advanced physical fitness with special courses in first aid, physiology and an introduction to the coaching profession

DEPARTMENT OF PHYSICS

DR. McGINNIS, Chairman

The science of physics is concerned principally with matter and energy, the nature of each, and with their interactions. It is the fundamental science for most branches of engineering and has innumerable applications in medicine, industry and everyday life. The objectives of the Department of Physics are: 1. to impart knowledge of the general principles of physical science and to show applications to human problems; 2. to train the student in logical and accurate methods of observation, measurement and analysis; 3. to provide adequate training in the fundamentals of physics as a basis for medical, engineering and other courses of study; 4. to encourage those students with exceptional aptitude to pursue graduate work in physics.

For the Physics major Physics 11, 12, 21, and 22 are required plus 22 credits in upper level Physics courses. Math 14, 21, 22 and 101 are required plus two additional upper level mathematics courses.

For the Electronics major Physics 11, 12, 21, and Engr. 44 are required plus 16 credits in upper level Electronics courses and two upper level Physics courses. Math 14, 21, 22 and 101 are required plus one upper level mathematics course.

PHYS. 1 & 2 GENERAL PHYSICS 8 credits

(Prerequisite: Mathematics 13-14) General college course for pre-medical, pre-dental and biology majors. Mechanics, heat, electricity and magnetism, sound, light and modern physics. Three hours lecture and recitation and two hours laboratory.

PHYS. 3 FOUNDATIONS OF PHYSICAL SCIENCE 3 credits

The course treats of the basic laws and concepts of physical science, of the applications in modern life, and of the influence of physical science on our understanding of the physical world. For non-science students. Three hours lecture with demonstrations.

PHYS. 4 SELECTED TOPICS IN PHYSICS 3 credits

(Prerequisite: Physics 3) A general course of elementary physics for non-science majors treating the topics of: Matter and Energy; Atomic and Nuclear Physics and some of the latest developments in Physics. Three hours lecture and recitation with demonstrations.

PHYS. 11 & 12 ELEMENTS OF PHYSICS 8 credits

(Corequisite: Mathematics 14-21) Basic college course, employing methods of the calculus, for physics, electronics, mathematics, and chemistry majors. Mechanics and heat, sound, light, electricity and magnetism. Three hours lecture and recitation and two hours laboratory.

PHYS. 21 ELEMENTS OF MODERN PHYSICS 4 credits

(Prerequisite: Physics 12) Introductory Modern Physics course for physics and electronics majors, also recommended for other science students. Review of classical physics, introduction to atomic and nuclear physics. Three hours lecture and recitation and two hours laboratory.

PHYS. 22 HEAT AND THERMODYNAMICS 3 credits

(Prerequisites: Physics 12 or 19, Mathematics 22) Intermediate course treating conduction, convection and radiation, thermodynamic laws, entropy, thermodynamic cycles, practical applications, kinetic and statistical theory of gases. Recommended for physics majors. Three hours lecture.

PHYS. 102 MECHANICS 3 credits

(Prerequisite: Physics 12; Corequisite: Mathematics 101) Introduction to theoretical mechanics treating statics and dynamics of particles and extended bodies; motion of bodies by conservative and dissipative forces; energy relations; generalized coordinates and Lagrange's equations. Recommended for physics majors. Three hours lecture.

PHYS. 103 PHYSICAL OPTICS AND WAVES 4 credits

(Prerequisite: Physics 21) Intermediate introduction to plane and spherical wave equations, standing waves, interference, Fraunhofer and Fresnel diffraction, polarization, and the applications of these topics to electro-magnetic and acoustic waves. Three hours lecture and two hours laboratory.

PHYS. 104 ELECTRICITY AND MAGNETISM I 4 credits

(Prerequisites: Physics 21, Mathematics 101 may be taken concurrently) Analytical treatment of electrical and magnetic theory, electrostatic fields; direct currents and circuits; measurements; magnetism. Required of physics and electronics majors. Three hours lecture and two hours laboratory.

PHYS. 105 ELECTRICITY AND MAGNETISM II 4 credits

(Prerequisites: Physics 104, Mathematics 101) Electromagnetic induction, circuit transients, alternating current circuits, measurements, electromagnetic fields and waves. Required of physics and electronics majors. Three hours lecture and two hours laboratory.

PHYS. 106 ELECTRONIC PRINCIPLES AND CIRCUITS I 4 credits

(Prerequisites: Physics 12, or 20; Engr. 44; Mathematics 22) General principles of electronic vacuum tubes and semiconductor devices; diodes and rectifiers; tube and transistor operation, characteristics; equivalent circuits; basic amplifier circuits. Required of electronics majors and recommended for physics majors. Three hours lecture and two hours laboratory.

PHYS. 107 ELECTRONIC PRINCIPLES AND CIRCUITS II 4 credits

(Prerequisite Physics 106) General analysis of vacuum tube and transistor electronic amplifiers including broad and narrow band types, power amplification, power supplies, modulation and demodulation Three hours lecture and two hours laboratory

PHYS. 108 ADVANCED ELECTRONICS 4 credits

(Prerequisites: Physics 105 & 107, and Mathematics 101) An extension of the basic electronic courses treating additional vacuum tube and transistor circuits and systems such as oscillators and signal generators, various special purpose circuits and basic analog and digital computer circuits operations Three hours lecture and two hours laboratory

PHYS. 109 HIGH FREQUENCY ELECTROMAGNETIC WAVES 4 credits

(Prerequisites: Physics 108 & 118) Electromagnetis wave theory; transmission line and wave guide theory; transmission and measurement of ultra-high frequency signals, microwave tubes and signal generators, transmission, reception and measurement of microwave signals Three hours lecture and two hours laboratory Required of electronics majors

PHYS. 110 ATOMIC PHYSICS 4 credits

(Prerequisites: Physics 21 & Mathematics 101) Intensive and quantitative treatment of modern Atomic Physics with particular emphasis on atomic structure, introducing the principles and techniques of the Quantum Theory. Required of Physics majors. Three hours lecture and three hours laboratory.

PHYS. 111 NUCLEAR PHYSICS 3 credits

(Prerequisite: Physics 110) The study of nuclear models and force theories. Natural and induced radioactivity, theory and measurement of alpha, beta and gamma decay; nuclear reactions including fission and fusion. Three hours lecture. Required of physics majors.

PHYS. 118 MATHEMATICAL PHYSICS I 4 credits

(Prerequisite: Math 101) Determinants and Matrices. Fourier Series. LaPlace Transformations. Introduction to Partial Differential Equations and Boundary Value Problems Special Functions of Physics, including Bessel Functions, Legendre Polynomials, Etc.

PHYS. 120 UNDERGRADUATE PHYSICS THESIS 1 credit

(Prerequisites. 24 credits in physics, 20 credits in mathematics) Recommended for senior physics majors, for the purpose of evaluating the student's capacity for individual study and research on a specific physical problem Assignment of problem to be arranged with the department Chairman

PHYS. 121 UNDERGRADUATE PHYSICS RESEARCH Variable credit

Recommended for Senior Physics and Electronics students who pursue a specific physical research project to gain experience with research literature, techniques and equipment Projects are recommended by members of the department and approved by the Chairman Written report required.

PHYS. 123 ADVANCED MECHANICS 3 credits

(Prerequisite: Physics 102) Variational principles and Lagrange's equations. Euler's equations of motion; Hamilton's equations of motion, canonical transformations, Hamilton Jacobi theory Recommended for physics majors

PHYS. 191 & 192 GUIDED INDEPENDENT STUDY Variable credit

A tutorial program open to Junior Honors students only Content determined by mentor Suggested topics for consideration particle statistics, solid state physics, quantum theory and electronic structure of atoms, nuclear energy Enrollment limited to 3 students

PHYS. 195 & 196 SENIOR TUTORIAL Variable credit

A tutorial program open only to senior Honors students majoring in Physics The course involves the preparation of a special project which is reported in writing and defended orally before the faculty of the department

PHYS. 253 MATHEMATICAL PHYSICS II 3 credits

Functions of a Complex Variable. Infinite Series in the Complex Plane. Theory of Residues. Conformal Mapping. Fourier and La Place Transforms. Advanced Partial Differential Equations. Boundary Value Problems in Physics. Green's Functions.

PHYS. 264 QUANTUM MECHANICS I 3 credits

(Prerequisites: Physics 118, Intermediate Mechanics) Basic postulates of Quantum Mechanics The Schrodinger Wave equation Solution of the wave equation in one dimension Separation of the time dependent equation The solution of Schrodinger's equation in three dimensions with application to the hydrogen atom Calculations using the wave function

PHYS. 265 QUANTUM MECHANICS II 3 credits

(Prerequisite: Physics 264) Use of variation methods as an approximate method of solution The solution of the Helium atom Introduction of the angular momentum operator Perturbation theory Harmonic perturbations Time dependent perturbation theory The solution for the case of the diatomic molecule The relativistic wave equation and the origin of electronic spin

DEPARTMENT OF POLITICAL SCIENCE

MR. SCULLY, Chairman

For the Political Science major the Department aims to accomplish the following objectives: 1. to give the student a thorough understanding of the nature and purposes of civil society; 2. to impart a sound knowledge of the philosophical basis of democracy; 3. to enable him to appreciate the problems of his own government at work, and 4. to relate the American system to the governments of other states in the international community.

For the Political Science major History 1-2; 3-4, Political Science 101-102 plus eighteen (18) credit hours from upper division courses are required.

POL. SCI. 101 & 102 AMERICAN NATIONAL GOVERNMENT 6 credits

(Prerequisite: History 1 & 2) An analysis of society, state, authority and common good. Forms of government. The constitution, federalism, structure, operations and functions of the three branches.

POL. SCI. 105 STATE GOVERNMENT 3 credits

The natural constitutional position of the states and the changing federal-state relationships. State governments in actual operation. Emphasis on Pennsylvania and actual problems of procedure and policy.

POL. SCI. 106 LOCAL GOVERNMENT 3 credits

Types and evolution of local government; constitutional and statutory limitations; functions of divisions; structure and operation.

POL. SCI. 107 PUBLIC ADMINISTRATION 3 credits

Nature of public administration; structures and statutory limitations; staff organization and flow of command, employment policies, personnel training and management; employee organization; public relations.

POL. SCI. 111 INTERNATIONAL RELATIONS 3 credits

An examination of the League of Nations, United Nations and America's role in the international community.

POL. SCI. 114 WESTERN POLITICAL THOUGHT 3 credits

The role of the state, its auxiliary agencies and functions as viewed by political philosophers from Plato to Marx.

POL. SCI. 120 & 121 AMERICAN FOREIGN RELATIONS 6 credits

(Prerequisite: History 1 & 2) This course is identical with History 120-121.

POL. SCI. 122 & 123 AMERICAN CONSTITUTIONAL AND LEGAL HISTORY 6 credits

(Prerequisite: History 1 & 2) This course is identical with History 122-123.

POL. SCI. 124 & 125 AMERICAN POLITICAL AND SOCIAL THOUGHT 6 credits

(Prerequisite: History 1 & 2) This course is identical with History 124-125.

POL. SCI. 126 THE POLITICAL PARTIES OF THE UNITED STATES 3 credits

(Prerequisite: History 1 & 2) The origins, nature and functions of parties under our American system of government.

POL. SCI. 130 BRITISH CONSTITUTIONAL HISTORY TO 1688 3 credits

Fusion of Anglo-Saxon and Norman political institutions; Magna Carta; concept of representation; beginning of the Common Law; jury system; evolution of Parliament, Tudor absolutism; struggle between royal prerogative and Parliament; rise of House of Commons; Parliamentary supremacy after 1688.

POL. SCI. 131 BRITISH CONSTITUTIONAL HISTORY 1688 TO PRESENT 3 credits

British concept of Constitutionalism; development of Cabinet government, supremacy of Parliament; democratic reforms of 19th Century, Parliamentary Bill of 1911, Statute of Westminster 1931, extension of administrative law.

(Pol. Sci. 130-131 is offered every other year.)

POL. SCI. 134 & 135 COMPARATIVE GOVERNMENT 6 credits

A detailed, comprehensive and balanced study of the politics and government of Great Britain, France, Germany, Italy, and the U.S.S.R. in comparison with and contrast to the Institutions of the United States of America.

POL. SCI. 140 GEOPOLITICS 3 credits

(Prerequisites: History 1-2 and History 3-4) A study of geographic factors on World History. Geographic factors in national power and international relations, an analysis of the role of "Geopolitics" with special reference to the current world scene.

POL. SCI. 191 &192 GUIDED INDEPENDENT STUDY Variable credit

A tutorial program open to junior Honors students only. Content determined by mentor. Maximum enrollment 3 students.

POL. SCI. 195 & 196 SENIOR TUTORIAL Variable credit

A program open only to senior Honors students majoring in Political Science. The course involves the preparation of a special project which is reported in writing and defended orally before the faculty of the department.

DEPARTMENT OF PSYCHOLOGY

DR. LENNON, Chairman

The faculty in Psychology seeks to: 1 prepare the student in psychology with a basic, systematic knowledge of method and content from experimental psychology, 2 provide the student of exceptional aptitude with scholarly learning experiences in preparation for successful graduate study; 3 complement the offerings of other departments with courses of value to general education or of worth to the specific majors of these departments.

The student majoring in psychology will schedule psychology 23, 24, 140, 141, 142 & 143, 144, 145, 146, 147, 148, 150 & 151

In Senior year those students selected by the Department will take Undergraduate Research (Psych 160-161) in place of two minor electives.

PSYCH. 23 FUNDAMENTALS OF PSYCHOLOGY 3 credits
An introduction to the science of psychology with emphasis on the nature of behavioral data, learning paradigms, and assumptions underlying the fundamental principles of development and motivational-emotional processes. Introduction to, and familiarization with, the basic sources in psychology including journals and handbooks.

PSYCH. 24 PSYCHOLOGICAL STATISTICS I 3 credits
Descriptive statistics, correlation, regression, sampling, estimation.

PSYCH. 140 PERSONALITY ADJUSTMENT 3 credits
(Prerequisite: Psych. 23) A study of the development and function of basic adjustive mechanisms and patterns, as well as types, causes and patterns of abnormal adjustment. Attention is given to certain theories of personality development

PSYCH. 141 PSYCHOLOGICAL TESTING 3 credits
(Prerequisites: Psych. 23&24) Provides a thorough grounding in principles of testing and measurement; with a detailed study of variance as related to reliability and validity of tests.

PSYCH. 142 & 143 EXPERIMENTAL PSYCHOLOGY 6 credits
(Prerequisites: Psych. 23 & 24) The first half of the course is concerned with experimental study of sensory mechanisms and perceptual phenomena, and the second half with instrumental and classical conditioning. Supervised individual experimentation. Two hours lecture. Three hours laboratory.

PSYCH. 144 PSYCHOLOGY OF DEVELOPMENT 3 credits
(Prerequisite: Psych. 23) Psychological phases of human development throughout the life span with emphasis upon the behavioral importance of childhood; implications for education and counseling; for home and society

PSYCH. 145 ABNORMAL PSYCHOLOGY 3 credits
(Prerequisite: Psych. 23) A survey of concepts of normality and abnormality, approaches to diagnosis, and treatment systems.

PSYCH. 146 PSYCHOLOGICAL STATISTICS II 3 credits
(Prerequisite Psych 24) An introduction to scientific method and experimental design Emphasis is placed on the kinds and sources of error in experimentation, methods of control and design of experiments

PSYCH. 147 PHYSIOLOGICAL PSYCHOLOGY 3 credits
(Prerequisite Psych. 23) Consideration is given to the relationship between behavior and the structure and function of the organism. Emphasis is placed upon the neurological bases of sensation, perception and learning.

PSYCH. 148 SOCIAL PSYCHOLOGY 3 credits
(Prerequisite Psych. 23) Social aspects of personality, the development and manifestations of social awareness; suggestion, imitation, group behavior, and the individual mechanisms of social adjustment Given in alternate years.

PSYCH. 149 INDUSTRIAL PSYCHOLOGY 3 credits
(Prerequisite. Psych 23) The principles and techniques in selection and management, job analysis; occupational descriptions; employment procedures; interviews, tests, inventories, counseling, industrial training, promotions, transfer, prevention of accidents, management employee relations. May be taken only with the consent of the instructor

PSYCH. 150 & 151 PROSEMINAR 6 credits
Individually supervised research in selected areas. Focus on the development of basic research, skills and preparation for the senior project. Required of all junior psychology majors.

PSYCH. 160 & 161 UNDERGRADUATE RESEARCH 6 credits
Individual study and research on a specific problem. May be taken only with the permission of the professor

PSYCH. 191 & 192 GUIDED INDEPENDENT STUDY
Variable credit
A tutorial program open to junior Honors students only. Content determined by mentor. Maximum enrollment 3 students.

PSYCH. 195 & 196 SENIOR TUTORIAL Variable credit
A tutorial program open only to senior Honors students majoring in Psychology The course involves the preparation of a special project which is reported in writing and defended orally before the faculty of the department

DEPARTMENT OF SOCIOLOGY

FATHER CONLIN, S.J., Acting Chairman

Courses in Sociology seek to provide both the terminal student and the prospective graduate student with a basic understanding of the forces that are part of the structure and function of society. In addition, the courses are designed to help the student interested in the field of Social Work or Social Welfare to attain a pre-professional orientation to these fields.

A major in Sociology shall consist of the following courses: Soc. 21, 22, 112, 118, and 122 plus 15 elective credits in Sociology. Certain Psychology courses may be substituted for some of these elective credits with the authorization of the departmental chairman.

Students interested in Social Work or Social Welfare are advised to include Soc. 106, 107 and 109 in their planning.

SOC. 21 PRINCIPLES OF SOCIOLOGY 3 credits
The basic sociological principles and concepts covering the structure and functions of society. Study of familial, economic and political institutions as examples of structural-functional analysis, social change and stratification. (Pre-requisite for all Sociology courses for Sociology majors).

SOC. 22 SOCIAL PROBLEMS 3 credits
An analysis of the major social problems affecting modern society. Social legislation, resources for treatment and prevention and deficiencies in existing programs. (Required for Sociology majors).

SOC. 103 CRIMINOLOGY AND PENOLOGY 3 credits
Contributions of the various schools to the development of criminology. Physical, psychological and environmental factors in crime. The role of the home, family and social relationships. The methods and instrumentalities of criminal justice, crime prevention.

SOC. 104 CULTURAL ANTHROPOLOGY 3 credits
Study and comparison of the learned, shared and transmitted behavior patterns and ideals by which man has worked out his social relations, dealt with his environment and defined his place in the world.

SOC. 106 COMMUNITY ORGANIZATION 3 credits
A general introduction to the field and process of community organization, both as a field of social work, and as a field of human endeavor. The coordination and financing of welfare activities, methods of appraising community needs and resources, planning and the initiation of welfare services. Services of a voluntary and governmental nature, strategies of power.

SOC. 107 CHILD WELFARE 3 credits
Development of child welfare in the United States. Educational, health, recreational and child labor regulations. Study and treatment of children in their own homes, foster homes and institutions. Child care and protective programs on Federal, State and local level.

SOC. 109 THE FIELD OF SOCIAL WORK 3 credits
Growth of social work as a professional endeavor. The scope of social work; case work in the medical, psychiatric, family and child welfare and guidance field, community organization as exemplified in the United Fund and Planning Council, social research, social planning, social group work. Current trends in social work.

SOC. 110 MARRIAGE AND FAMILY LIFE 3 credits
The major focus of attention will be given to the preparation for marriage, selection of a partner, financing the marriage, harmonies and discords in the marriage, problems of parenthood and family administration, successful and happy marriage and family union. Restricted to seniors.

SOC. 111 URBAN SOCIOLOGY 3 credits
A sociological analysis of the development and effects of modern urbanization on human institutions, population trends and social relationships. The interrelationships, form, structure and organized life in cities, patterns of urban structure and cities of the future. The role of politics, social agencies and elements making for organization and disorganization. Urban planning and redevelopment.

SOC. 112 METHODS OF SOCIAL RESEARCH 3 credits
Methods of obtaining, recording, interpreting, and publishing research materials; the use and interpretation of statistical procedures. (Pre-requisite: Soc. 122. required for Sociology majors).

SOC. 113 JUVENILE DELINQUENCY 3 credits
Juvenile delinquency as a social problem. Methods of treatment and prevention, including juvenile courts, clinics, probation, parole, correctional institutions, child placement and recreational programs.

SOC. 114 AMERICAN MINORITY GROUPS 3 credits
A study of the cultural background, distribution, assimilation and other adjustments of minority groups; problems arising from the contacts of these people who differ as to race and culture. Prejudice and discrimination as opposed to the democratic ideology. Legislation affecting minority status.

SOC. 117 HISTORY OF SOCIOLOGICAL THOUGHT 3 credits
A history of social and sociological ideas with emphasis on the social thought of Confucius, Mencius, Aristotle, Plato, Augustine, Ibn Khaldun, Vico, Saint Simon and Comte.

SOC. 118 HISTORY OF SOCIOLOGICAL THOUGHT 3 credits
A history of sociological ideas of the Social Darwinists, Durkheim, Weber, Tarde, Tonnies, Sorokin, Thomas, Pareto, Lundberg, Parsons and Merton. (Required for Sociology majors)

SOC. 119 DEMOGRAPHY 3 credits
A study of the basic variables of population, birth, death and migration, socio-economic and cultural variables affecting population, growth, projections and forecasts. The chief natural and social demographic theories. Population policies and practices in selected world areas.

SOC. 120 SPECIAL PROBLEMS 1 credit
Done on an individual basis. Assigned readings, individual research, informal conferences and written reports. Individual has choice in field of sociological study. Restricted to seniors.

SOC. 121 THE SOCIOLOGY OF RELIGION 3 credits
The typological study of religion with the aim of identifying and describing the main forms which religion has assumed in its interaction with secular society. Emphasis will be placed upon the ways in which society, culture and personality influence religion as well as how religion affects society, culture and personality. Some consideration will be devoted to the thinking of Durkheim and Weber, role and function and dysfunctions. Specific analysis of numbers or religious sects and movements such as Christian Science, Mormonism, Jehovah's Witnesses, Black Muslims, etc.

SOC. 122 STATISTICS FOR THE SOCIOLOGIST 3 credits
A course in applied statistics oriented espcially for the sociologist and social worker. The areas treated include frequency distributions, measures of association such as linear correlations, partials and multiples, probability and hypotheses testing and tests of significance. (Required of Sociology majors)

SOC. 191 & 192 GUIDED INDEPENDENT STUDY Variable credit
A tutorial program open to sophomore and junior Honors students only. Content determined by mentor and student.

SOC. 195 & 196 SENIOR TUTORIAL Variable credit
A tutorial program open only to senior Honors students majoring in Sociology. The course involves the preparation of a special project which is reported in writing and defended orally before the faculty of the department.

DEPARTMENT OF THEOLOGY AND RELIGIOUS STUDIES

FR. OSTERLE, S.J., Chairman

Theology includes both the content of the Judeo-Christian Revelation and the efforts of the human spirit to accept and understand that Revelation. This "faith seeking understanding" is the work of mind, heart and grace. It is the work of a lifetime. The theology program can help students pursue this work with finer tools and firmer skill.

THEOL. 5 INTRODUCTION TO RELIGION 3 credits
Analysis of the general nature of religion, what it offers as regards the meaning of human experience. Some leading issues in belief and unbelief. Investigation of religious institutions as expressed in several of the major world religions. (Required of all Catholic students).

THEOL. 23 THEOLOGY OF THE CHURCH 3 credits
A study of the problems and changes facing the Catholic Church today. The Church in contemporary society—its claims, the nature of its authority, the role of clergy and laity, its mission to modern man. (Required of all Catholic students).

THEOL. 108 RELIGION AND LITERATURE 3 credits
A study of religious attitudes to man in the twentieth century as revealed through selected modern literary works in various genres. In the attempt to read literature for the revelation of religious ideas focused on the nature of man, the course will avoid the technical extremes of both doctrinal theology and literary criticism. (Offered in Spring, 1971).

THEOL. 114 NEW TESTAMENT THEOLOGY 3 credits
Major themes of the New Testament with special attention to current study of the four Gospels and their meaning to the modern Christian. (Offered in Spring, 1971)

THEOL. 130 DOCTRINE IN DEVELOPMENT 3 credits
Historical circumstances as influencing the formation of Christian doctrine; especially the doctrines of original sin, death and personal sin, and the prohibition against contraception.

THEOL. 135 CONTEMPORARY CATHOLIC THEOLOGY 3 credits
An advanced examination of contemporary problems discussed in the current literature, showing the historical and doctrinal roots of the underlying theological issue, and the Catholic position. The aim will be to enable the student to correlate what he already knows about his faith with the problems of the contemporary world.

THEOL. 136 SPIRITUALITY OF VATICAN II 3 credits
An interpretation of the theology of the Christian life (some basic principles applicable to all Christians and their application to some particular Christian vocations) in the light of explicit and implicit teachings of Vatican II.

THEOL. 140 JEWISH THEOLOGICAL THOUGHT 3 credits
The nature, creeds, and institutions of Judaism. The God Concept, Man and His Will, the Nature of the Good, the Destiny of Man, the Shadow of Sin. (Offered in Spring, 1971)

THEOL. 141 THE PROTESTANT FAITH 3 credits
An inquiry into the way a Protestant thinks theologically. Problems of myth, truth, authority arising from modern Biblical Criticism. Roots and principles of Protestant thought on the doctrine of God, nature of the Church, Christology, Eschatology, and Ethics. (Offered in Fall, 1970)

THEOL. 150 CHURCH & CONTEMPORARY SOCIAL ISSUES 3 credits
An introduction to contemporary religious thinking on the major social issues of the present day. Man, morality and the absurd, religion and race, sex, family, and the politico-economic order. The Church and the international order.

THEOL. 160 RELIGION IN AMERICA 3 credits
Religion as philosophy of life, attitude, tradition and organization, with special reference to the American scene. The history and thought of various religious groups. Some contemporary issues, such as Church and state, ecumenism.

THEOL. 170 THEOLOGY OF LOVE AND MARRIAGE 3 credits
Natural and supernatural meaning of love. The theology of vocation, the secular meaning, sign and celebration of Christian matrimony, and the implications for Christian perfection in the calling to marriage and family life.

THEOL. 171 THEOLOGY OF SEXUALITY 3 credits
The nature and meaning of sexuality. The scriptural and Patristic sources. Contemporary insights into sexuality as a quality of the human person. A theology of sexualty with its moral and attitudinal implications for the pre-marital, marital and celibate states.

THEOL. 172 CONTEMPORARY PROBLEMS OF MARRIAGE AND FAMILY I 3 credits
Against the background of the "sexual revolution" and the "new morality" a theological investigation of childhood and adolescent sexuality, marital and pre-marital experience, masculine and feminine roles, family size, abortion, sterilization.

THEOL. 173 CONTEMPORARY PROBLEMS OF MARRIAGE AND FAMILY II 3 credits
(Theology 172 not required as prerequisite) Natural and supernatural love; the spiritual asceticism of marital love; sin, vice, and neurosis as enemies of marital love. The problems of adultery, divorce, separation; mixed religious marriage; rejection of parental role; celibacy, widowhood, and remarriage.

THEOL. 180 INTRODUCTION TO SACRED SCRIPTURE I 3 credits
The individuals, history and literature of the Old Testament, with special emphasis on ancient Near East environment, and the relation of this literature to the biblical books. (Offered in Fall, 1970)

THEOL. 181 INTRODUCTION TO SACRED SCRIPTURE II 3 credits
An examination of the discipline of Old Testament theology. Critical and exegetical study of selected writings in the Bible. Biblical criticism (Offered in Spring, 1971)

Within a Catholic university, a self-developing and self-deepening society of students and faculty should arise. In such a community, person to person relationships are taken seriously and the importance of religious commitment is accepted. Here the students can learn by personal experience to consecrate their talents and learning to worthy social purposes.

ADMISSION, EXPENSES, FINANCIAL AID

ADMISSION

Admissions standards and policy are free of discrimination on grounds of race, creed, color and national origin.

The Admissions Committee of the University of Scranton will make the final decision on applications for admission. In reaching this decision, the committee will consider the following:

The high school record — both the student's relative standing in class and the program followed.

The scholastic aptitude test scores.

The recommendations of teachers, guidance counselors, and the principal.

The student's character, personality, and leadership potential.

Steps in Making Application. Requests for an application form and all correspondence dealing with admission to the College of Arts and Sciences should be directed to: THE DIRECTOR OF ADMISSIONS, UNIVERSITY OF SCRANTON, SCRANTON, PENNSYLVANIA 18510

A non-refundable fee of $15.00 should accompany the application.

Students should apply during the first semester of their senior year of high school. July 1 is the final date on which applications for Fall term admission will be accepted.

The first two parts of the application form should be completed and the entire form given to the registrar or principal of the high school who will record the high school grades and return the form with his recommendations to the University.

In December or January of senior year, the student should take the Scholastic Aptitude Tests. The Achievement Tests in English, Mathematics Level I, and the Modern Foreign Language studied in high shool should be taken in January or March of senior year. Applicants for science or engineering programs or those with advanced mathematics courses will take Mathematics Tests, Level II. The Scholastic Aptitude Tests and the Achievement Tests are required of all applicants. The Aptitude Tests are used for admission and the Achievement Tests are used for placement. Arrange for these tests one month ahead of the testing date by writing to; The College Entrance Examination Board, Box 592, Princeton, New Jersey 08540.

A non-refundable class reservation fee of $25.00 is required of all accepted applicants. In addition, accepted resident freshman will make a non-refundable room deposit of $50.00 upon notice from the Director of Admissions.

Students may make use of a pre-college counseling service offered by the Director of Admissions after an application has been submitted.

Final marks for senior year and certification of graduation are necessary. Students should arrange to have these sent to the Director of Admissions on the completion of senior year in high school.

Required High School Preparation. Students desiring to enroll in any of several undergraduate programs offered by the University must have completed a total of sixteen or more high school academic units covering grades 9 12. The term "unit" means a high school course taught four or five hours weekly throughout an academic year of thirty-six weeks duration. Unit requirements and preferred distribution of secondary courses are given in the following table:

HIGH SCHOOL UNITS	COLLEGE PROGRAM CHOICE					
	Arts		Science or Engineering		Business Education or Social Science	
	Req.	Pref.	Req.	Pref.	Req.	Pref.
English	4	4	4	4	4	4
History & Social Science	2	3	2	3	2	3
Foreign Language	2	2+	2	2+	2	2+
College Preparatory Mathematics	3	4	3	4	3	4
Science	1	2+	1	3+	1	2+
Other acceptable units	4		4		4	
TOTAL	16+		16+		16+	

Applicants without high school credit in modern languages may be accepted if they present sixteen (16) acceptable units. However, they must register for the elementary course in a modern foreign language and continue their study of the language in summer school. A single year of language in high school will not be counted as a unit to satisfy the requirements for admission.

Mathematics includes elementary, intermediate and advanced algebra, plane and solid geometry, trigonometry, analysis and any other college preparatory courses. Applicants for science and engineering programs must include trigonometry and have maintained an 85% average in each mathematics course.

Science includes biology, chemistry, physics and other college preparatory courses. Pre-Engineering applicants are urged to include physics in their high school preparation.

Other acceptable high school units may be chosen from any of the following:

- Ancient History
- Medieval History
- Modern History
- Civics
- Economics
- Problems of Democracy
- Social Science
- Greek, Latin
- Modern Foreign Language
- College Preparatory Mathematics
- Science

REQUIRED OF ALL APPLICANTS

WHAT	APPLY TO WHOM	WHEN
Application Form	Director of Admissions	End of junior year or beginning of senior year.
High School Record	Principal (to be sent to the Director of Admissions)	End of junior year or beginning of senior year.
Scholastic Aptitude Test	College Entrance Examination Board, Box 592, Princeton, New Jersey 08540	November, December or January of senior year
Achievement Tests in: English Mathematics Modern Foreign Language	College Entrance Examination Board, Box 592, Princeton, New Jersey 08540	January or March of senior year

Arrange to have all test scores sent to the Director of Admissions, University of Scranton.

ADVANCED PLACEMENT
PRE-COLLEGE
TRANSFER STUDENTS

ACCELERATION AND ADVANCED PLACEMENT. Applicants who have taken college level courses may be given advanced placement or advanced placement with credit for these courses. Students who have been accepted for admission and desire to apply for such placement must take the Advanced Placement Examination offered in May by the College Entrance Examination Board, Princeton, New Jersey 08540. Ordinarily a score of "3" or better in this examination will insure advanced placement with credit.

A SPECIAL ACCELERATION program is available for outstanding high school students of the Scranton area. These students are recommended by their high school during their junior year and take courses at the University during the summer months and senior year. Through this program it is possible for a student to enter the University as a sophomore. For further details contact the Director of Admissions.

PRE-COLLEGE PROGRAM. Applicants who fail to meet all of the admission requirements may be considered for a special 8 week summer program which concentrates on English, Mathematics, reading skills and study habits. Satisfactory completion of this program will insure the applicant a place in the freshman class.

TRANSFER STUDENTS. At the discretion of the Admissions Committee, students from another accredited college or junior college may be admitted provided: (1) The courses to be transferred are equivalent to courses offered at the University of Scranton; (2) the academic average of the candidate is "C plus" (2.5) or better; (3) certification of honorable dismissal is presented from the previous college. No credit will be given to courses with grades less than "C". Students transferring from other institutions shall be required to make up curricular subjects prescribed in the course which they are to follow at the University of Scranton.

Ordinarily the deadline for transfer applications is July 1.

UNIVERSITY OF SCRANTON
COLLEGE OF ARTS AND SCIENCES

STUDENT EXPENSES

ACADEMIC YEAR 1970-1971

Tuition per credit	$ 49.00

(Consult pages 33-50 for various credit loads)

SPECIAL SERVICE FEES

Late Registration Fee	15.00
Change of Schedule after Registration	5.00
Certified Transcript (per copy)	1.00

ORDINARY FEES

University Fee, per semester	45.00

The University Fee is applied as follows:

Student Center Membership Fee	$15.00
Physical Education Building Fee	15.00
Athletic Fee	7.50
Student Activity Fee	7.50

Science and Engineering Laboratory, per semester	20.00
Science Demonstration Fee, per semester	10.00
Business Laboratory, per semester	10.00
Statistics Laboratory, per semester	10.00
Computer Use Fee, per semester	20.00
Education and Psychology Laboratory, per semester	20.00
Language Laboratory, per semester	10.00
Breakage Fees	Actual
I. D. Photo Fee	2.00

FOR SENIORS ONLY		FOR FRESHMEN ONLY	
Graduation Fee	45.00	Orientation Fee	5.00

FOR RESIDENT STUDENTS ONLY — ROOM & BOARD

(consult page 20)

2 meal plan (per semester)	455.00
3 meal plan (per semester)	515.00
Damage Deposit	25.00

Tuition and fees are payable in advance upon registration. Registration is to be completed **by mail** by August 10 for the fall semester and by January 4 for the spring semester. There will be a $5.00 service charge made for students who register in person instead of by mail. After the dates of August 10 or January 4, respectively, the late registration fee of $15.00 becomes effective. Without exception, the Laboratory Fee must be paid in all courses having a laboratory requirement.

No student shall be permited to receive any degree, certificate or transcript of record, until his financial account with the University has been satisfactorily settled.

MONTHLY PAYMENTS

Parents who prefer to pay tuition, board and room, and other fees in equal monthly installments should consult their local bank. Numerous banks now provide tuition plan services. The University does not accept installment payments directly.

REFUNDS

When a student leaves the University without completing the semester, he may not demand a refund as a matter of right. If, however, his withdrawal is authorized for a good cause and he has honorable dismissal, he may request in writing a refund of tuition, board and room fees. Ordinary and special service fees are not refundable. The schedule of refunds is listed below.

PERIOD OF ATTENDANCE	REFUND
FIRST SEMESTER	
To September 12	80%
To September 19	60%
To September 26	40%
To October 3	20%
Beyond October 3	no refund
SECOND SEMESTER	
To January 23	80%
To January 30	60%
To February 6	40%
To February 13	20%
Beyond February 13	no refund

FINANCIAL ASSISTANCE

The University desires to help as many qualified students as possible to complete a college education. For this purpose the University maintains an Office of Financial Assistance and all inquires concerning such assistance should be made to the Director of Financial Aid.

Procedures for Applying for Financial Aid

1) Complete the application for financial assistance which accompanies your application for admission and return it to the Director of Financial Aid before February 15th.

2.) Complete the Parents' Confidential Statement and forward it to the College Scholarship Service before February 15th. The University code number is 2929. Copies of the Parents' Confidential Statement can be obtained from the College Scholarship Service, Box 176, Princeton, New Jersey 08540

Ordinarily to be eligible for financial aid, a student must be classified as full time, i.e. carrying a minimum of 12 credits per semester. The following financial aid programs are available:

Scholarships:

Each year the University offers a variety of scholarships which range from full tuition Presidential Scholarships for outstanding high school seniors to partial scholarships which are granted on the basis of the student's scholastic ability and financial need. Scranton University participates in the College Scholarship Service and all applicants for scholarship aid must file a copy of the Parents' Confidential Statement.

Loans:

The University administers the National Defense Student Loan Program in accordance with the National Defense Act of 1958. The Parents' Confidential Statement is required of all loan applicants

Individual state loans are also available. Applications for these loans must be secured from the participating banks in the student's home town

Other Programs:

The Pennsylvania Higher Education Assistance Agency has been designated by the General Assembly to administer the **State Scholarship Program.** A graduating high school senior may be awarded from $200 - $800 per year. Interested students should consult with their high school guidance counselor for full details and eligibility requirements.

Educational Opportunity Grants established under the Higher Education Act of 1965 are awarded from federal funds through the college in amounts from $200 - $1,000 per year to students from low income families. The Parents' Confidential Statement is required for this program

The College Work-Study Program established under the Economic Opportunity Act of 1964 provides a number of jobs both on and off campus during the summer and academic year for students demonstrating a high degree of financial need. The Parents' Confidential Statement is required of all applicants for this program

Veterans Readjustment Act of 1966 – Veterans should consult with their local V.A. counselor in order to establish their eligibility for participation.

U.S. Army ROTC Scholarships are available. Full details may be secured by contacting the Military Science Department.

The Bureau of Vocational Rehabilitation under the Pennsylvania Department of Labor and Industry provides help to qualified students. Eligibility requirements should be discussed with a local service office

Campus Employment – In addition to jobs under the Federal College Work Study Program, the University annually provides a number of jobs in various departments and administrative offices for qualified students. Students seeking campus employment must file the Parents' Confidential Statement

FACULTY DIRECTORY

BOARD OF TRUSTEES

John S. Davidson
Joseph K. Drane
Edward J. Gerrity, Jr.
Dexter L. Hanley
William T. Hogan
George V. Lynett
William J. Nealon
Francis M. O'Connor
Joseph A. Panuska
William L. Reilly
George D. Ruggieri
Mrs. William W. Scranton
Michael J. Smith
Henry A. Suraci
William J. Young

OFFICERS OF THE UNIVERSITY CORPORATION

Dexter L. Hanley, *President*
Edward R. Powers, *Secretary*
Louis C. Kleff, *Treasurer*

FACULTY

Administration and Professional Services

Dexter L. Hanley, S.J. (1970)
President of the University (1970)
A.B., LL.B., Georgetown University;
Ph.L., S.T.L., Woodstock College;
LL.M., Doctoral Studies, Harvard University

John J. Baldi, D. Et U. *(1948)
Director of University Research (1964)
Professor of Sociology (1968)
A.B., M.S.S.W., Boston College;
Advanced Curriculum Certificate,
University of Pennsylvania

Charles J. Buckley, D. Et U. (1947)
Dean of the Evening College (1963)
Associate Professor of Business Administration (1968)
B.S., University of Scranton; M.B.A., Doctoral Studies
New York University

Robert J. Burke (1961)
Director of Placement (1963)
B.S., University of Scranton

Joseph M. Cannon (1959)
Director of Counseling Center (1968)
Associate Professor of Psychology (1968)
B.S., University of Scranton; M.Ed., Cand. D.Ed.,
Pennsylvania State University; Certified Psychologist

William J. Cavey, S.J. (1954-1957; 1966)
Physical Plant Administrator (1966)
A.B., Loyola University, Chicago; Ph.L., West Baden
College; S.T.L., Woodstock College

**Pro Deo et Universitate Award for Twenty Years or More of Service*

John J. Fitzpatrick, S.J. (1965)
University Chaplain (1966)
A.B., M.A., S.T.B., Woodstock College;
M.S., University of Scranton

William F. Gavin, S.J. (1965)
Assistant University Chaplain (1970)
Assistant Profesor of Mathematics (1968)
B.A., Bellarmine College; Ph.L., Loyola Seminary;
M.A., Fordham University; S.T.B., Woodstock College;
Doctoral Studies, New York University

John R. Gavigan, D. Et U. (1950)
Director of Public Relations and Development (1951)
A.B., University of Scranton

Louis C. Kleff, S.J., (1953)
Treasurer (1957)
A.B., M.A., Woodstock College

Salvatore P. LaSpina (1967)
Executive Secretary of the Alumni Society (1967)
B.S., University of Scranton

Zim E. Lawhon (1964)
Colonel, U. S. Army - Ret.
Registrar (1970)
A.B., M.S., Princeton University

Thomas A. McGoff (1964)
News Director (1964)
B.S., University of Scranton

Bernard R. McIlhenny, S.J. (1966)
Director of Admissions (1966)
A.B., M.A., Loyola University, Chicago;
S.T.B., Woodstock College

Lawrence J. Morton (1969)
Dean of Men (1969)
A.B., St. Bonaventure University
M.S., Syracuse University

David R. Ocorr (1968)
Director of Athletics (1968), Associate Professor,
Chairman Department of Physical Education (1968)
A.B., University of Rochester; M.S., Columbia University

Frank J. O'Hara, D. Et U. (1925)
Director of Alumni Relations (1957)
A.B., LL.D., University of Scranton;
M.A., LaSalle College

William J. Parente (1970)
Dean of the College of Arts and Sciences (1970)
Associate Professor of Political Science (1970)
A.B., Xavier University; Ph.D., Georgetown University

J. Frank Reddington, D. Et. U. (1940)
College Physician (1940)
A.B., Holy Cross College; M.D., Geargetown University

John T. Robson (1970)
Admissions Counselor (1970)
B.S., University of Scranton

Joseph A. Rock, S.J. (1946-47; 1957)
Academic Vice President (1966)
Professor of History (1969)
A.B., M.A., Georgetown University; Ph.L., Woodstock
College; S.T.L., Weston College; Ph.D., Georgetown
University

Clifford L. Rogers (1969)
Director of Student Personnel (1969)
B.S., M.A., University of Detroit

Robert T. Ryder, D. Et U. (1946)
Assistant Treasurer (1969)
B.S., M.B.A., University of Scranton

John K. Stout (1966)
Assistant Director of Rehabilitation Counseling (1966)
B.S., M.S., D.Ed., Pennsylvania State University

Harry B. Stricklond (1963)
Dean of the Graduate School (1969)
Associate Professor of Business Administration (1968)
B.S., St. Vincent's College; M.L., Ph.D., University
of Pittsburgh

Joseph A. Szuhay (1964)
Director of Rehabilitation Counseling (1964)
B.S., M.S., Ph.D., State University of Iowa

Joseph M. Tierney (1964)
Director of Student Financial Aid (1964)
A.B., University of Scranton

Leonard N. Wolf, D. Et U. (1937)
Vice President for Planning (1969)
Professor of Biology (1940)
B.S., St. Vincent's College; M.S., Ph.D., University
of Pittsburgh

John G. Zealand (1970)
Assistant Director of Counseling Center (1970)
B.S., M.S., University of Scranton

FACULTY

Instruction

PROFESSORS EMERITI

Richard F. Grady, S.J., Ph.D., D. Et U. (1942-1970)
Department of English

Edward G. Jacklin, S.J., Ph.D. (1942-1949; 1958-1968)
Department of Philosophy

Antanas Kucas, Ph.D., D. Et U. (1947-1967)
Department of Modern Languages

John P. McNicholas, S.J., Ph.D. (1953-1969)
Department of Philosophy

Thomas G. Sheehan, M.A., D. Et U. (1947-1967)
Department of Business Administration

PROFESSORS

Martin D. Appleton (1955)
Professor of Chemistry (1964)
B.S., University of Scranton; M.S., Ph.D.,
Pennsylvania State University

Edward F. Bartley, D. Et U., (1943)
Professor of Mathematics (1968)
A.B., University of Scranton;
M.A., Doctoral Studies, Columbia University

Joseph G. Brunner (1962)
Professor of Modern Languages (1969)
M.A., B. Eotvos College, Budapest, Hungary;
Ph.D., University of Budapest, Hungary

Umbay H. Burti, D. Et U. (1935)
Professor (1970), Chairman Department of Chemistry
(1950-69; 1969);
B.S., LL.D., University of Scranton

James J. Conlin, S.J. (1967)
Professor (1970), Acting Chairman Department of
Sociology (1970);
A.B., Ph.L., M.A., Ph.D., St. Louis University;
S.T.L., Woodstock College

Sister Alice Louise Davis, R.S.M. (1969)
Professor of Education (1969)
B.S., West Chester State College; M.Ed., Pennsylvania
State University; D. Ed., Temple University

William J. Devlin, S.J. (1960)
Professor of Philosophy (1960)
A.B., M.A., Ph.L., St. Louis University;
S.T.L. Woodstock College; Doctoral Studies,
Fordham University

Joseph C. Dougherty (1967)
Professor of History (1967)
A.B., St. Charles College; M.A., Ph.D., Georgetown
University

Joseph T. Evans (1953)
Professor (1965), Chairman Department of Biology
(1969);
B.S., University of Scranton;
M.S., Ph.D., The Catholic University of America

Matthew J. Fairbanks (1960)
Professor (1970), Chairman Department of
Philosophy (1970);
B.S., M.A., Loyola University, Chicago;
Ph.D., Notre Dame University

Eugene B. Gallagher, S.J. (1959)
Professor of Theology (1959)
A.B., Ph.L., M.A., S.T.L., Doctoral Studies,
Woodstock College

Edward Gannon, S.J. (1964)
Professor of Philosophy (1964)
A.B., Georgetown University; M.A., Fordham University;
Ph.L., S.T.L., Woodstock College; Ph.D., University
of Louvain

Thomas M. Garrett, S.J. (1960)
Professor of Philosophy (1970)
A.B., M.A., Ph.L., Gonzaga University;
S.T.L., Weston College;
Ph.D., Gregorian University, Rome

A. John Giunta (1960)
Professor of Business Administration (1967)
B.S., Harpur College; M.S., Ph.D., Syracuse University

Walter Haab (1960)
Professor of Chemistry (1968)
B.S., Swiss Federal Institute of Technology;
M.S., University of Alberta; Ph.D., University of
California

William B. Hill, S.J., (1946-47; 1969)
Professor of English (1969)
Editor of Best Sellers
A.B., Georgetown University; Ph.L., Woodstock College;
S.T.L., Weston College; M.A., Ph.D., Fordham University

Daniel J. Houlihan, D. Et U. (1947)
Professor of Business Administration (1969)
B.S., University of Scranton; M.S., Columbia University;
LL.B., Temple University

Lawrence J. Lennon, D. Et U. (1947)
Professor (1955), Chairman Department of Education
and Psychology (1947-69; 1969);
A.B., M.S., Ph.D., Pennsylvania State University;
Certified Psychologist

Michael Marino (1965)
Professor of Education (1970)
B.S., M.S., Brockport State College;
Ed.D., University of Buffalo

Eugene A. McGinnis, D. Et U. (1948)
Professor (1963), Chairman Department of Physics (1967);
B.S., University of Scranton; M.S., New York University;
Ph.D., Fordham University

John J. Murray (1957)
Professor of English (1968)
B.S., University of Scranton; M.A., The Catholic University of America; Ph.D., New York University

Andrew W. Plonsky, D. Et U. (1947)
Professor (1947), Chairman Department of Engineering (1947); B.S., University of Scranton; B.S.E.E., M.S.E.E., Massachusetts Institute of Technology; Registered Professional Engineer in Pennsylvania

Terence J. Reynolds, O.F.M. (1969)
Professor of English (1969)
A.B., M.A., St. Bonaventure University; M.A., Ph.D., Harvard University

Stephen P. Ryan (1960)
Professor of English (1960)
A.B., St. Joseph's College; M.A., University of Pennsylvania; M.A., Ph.D., University College, Dublin, National University of Ireland

Henry V. Sattler, C.SS.R. (1967)
Professor of Theology (1967)
M.A., Ph.D., The Catholic University of America

Herman L. Senker, D. Et U. (1946)
Professor of Business Administration (1946); B.S. in C., Manhattan College; M.B.A., Harvard University; D.C.S., New York University

Gokaran Nath Srivastava (1967)
Professor of Physics (1967)
A.B., M.A., University of Lucknow, India; Ph.D., University of Toronto, Canada

Charles B. Trundle, S.J., D. Et U. (1948-51; 1953)
Professor of Theology (1961)
A.B., M.A., Georgetown University; Ph.L., Woodstock College; S.T.L., Weston College

ASSOCIATE PROFESSORS

Paul R. Beining, S.J. (1949-51; 1967)*
Associate Professor of Biology (1967)
B.S., Ph.L., Spring Hill College; S.T.L., Woodstock College; M.S., Ph. D., The Catholic University of America

Frank C. Brown, D. Et U. (1939)
Associate Professor of History (1954)
A.B., University of Scranton; M.A., Doctoral Studies, Columbia University

*On Leave 1970-71

John J. Calloghan (1955)
Associate Professor of Biology (1965)
B.S., M.S., University College, Cork, National University of Ireland; Ph.D., Pennsylvania State University

Edward J. Capestany (1968)
Associate Professor of Philosophy (1968)
B.S., M.A., University of Comillos, Spain; Ph.D., University of Ottawa

Paul J. Casey, S.J. (1955)
Associate Professor of Chemistry (1968)
Director of Computer Center (1965)
B.S., Spring Hill College; S.T.B., Woodstock College; M.S., University of Detroit

Frank A. Cimini, D. Et U. (1941)
Associate Professor (1968), Chairman Department of Modern Languoges (1953-1970; 1970);
A.B., University of Scranton; M.A., Fordham University; Doctoral Studies, St. John's University

Joseph B. Cullather, D. Et U. (1946)
Associate Professor of English (1960)
A.B., University of Scranton; M.A., University of Alabama

Michael D. DeMichele (1967)
Associate Professor of History (1970)
B.S., University of Scranton; M.A., Ph.D., Pennsylvania State University

John J. Dunstone (1966)
Associate Professor of Psychology (1969)
B.S., Pennsylvania State University; M.S., Ph.D., University of Massachusetts

John L. Earl, III (1964)
Associate Professor of History (1967)
B.S., M.A., Villanova University; Ph.D., Georgetown University

Paul R. Getts (1968)
Associate Professor of Education (1968)
B.S., M.Ed., D.Ed., Pennsylvania State University

Maurice I. Hart, Jr. (1963)
Associate Professor of Chemistry (1967)
A.B., Maryknoll College; M.S., Ph.D., Fordham University

Edward A. Jarvis, S.J. (1956)
Associate Professor of Philosophy (1966)
A.B., M.A., Ph.L., S.T.L., Woodstock College

John R. Kalafut (1965)
Associate Professor of Physics (1969)
B.S., University of Scranton; M.S., Doctoral Studies, University of Delaware

Daniel F. Lawler, S.J. (1964)*
Associate Professor of Theology (1964)
A.B., Georgetown University;
Ph.L., S.T.B., Woodstock College

Francis J. MacEntee, S.J. (1965)
Associate Professor of Biology (1965)
B.S., Spring Hill College;
M.S., Ph.D., The Catholic University of America

Lawrence A. Mann, D. Et U. (1949)
Associate Professor (1968), Chairman Department of Classical Languages (1950-69; 1969);
A.B., M.A., University of Maine; Doctoral Studies, Fordham University

John P. McLean, D. Et U. (1940)
Associate Professor of Business Administration (1968)
B.S., University of Scranton

Marianne McTighe, D. Et U. (1946)
Associate Professor (1970)
Librarian (1956), B.S., M.A., Marywood College

Louis D. Mitchell (1961)
Associate Professor of English (1967)
A.B., M.A., Fordham University; Ph.D., New York University

William H. Osterle, S.J. (1956)
Associate Professor (1969), Chairman Department of Theology (1969);
A.B., Loyala University of Chicago;
Ph.L., West Baden College; M.S., in L.S., Western Reserve University; S.T.B., Woodstock College;
M.A., University of Notre Dame

Matthew R. O'Rourke (1955)
Associate Professor of English (1968)
A.B., M.A., Rutgers University

Richard H. Passon (1964)
Associate Professor (1968), Chairman Department of English (1970);
A.B., King's College; M.A., Ph.D., University of Notre Dame

*On Leave 1970-71

Njegos Petrovic (1967)
Associate Professor of Modern Languages (1967)
A.B., Classical College, Belgrade, Yugoslavia;
M.A., Ph.D., University of Montreal

Edward R. Powers, S.J. (1955)
Associate Professor of Mathematics (1965)
A.B., M.A., Boston College; Ph.L., S.T.L., Weston College

John J. Quinn, S.J. (1956)
Associate Professor of English (1968)
A.B., Holy Cross College; Ph.L., Weston College; M.A., Fordham University; S.T.B., Woodstock College; Ph.D., University of London

Angelina T. Scardamaglia, D. Et U. (1947)
Associate Professor (1970)
Assistant Librarian (1947), A.B., B.S. in L.S., M.S. in L.S., Marywood College

Timothy H. Scully, D. Et U. (1948)
Associate Professor (1968), Chairman Department of History (1970);
B.S., M.A., Boston College; Doctoral Studies, Fordham University

Bernard A. Suppé, S.J. (1957)*
Associate Professor of Philosophy (1965)
A.B., Ph.L., St. Louis University;
S.T.L., Woodstock College

Charles J. Thoman, S.J. (1953-1955; 1966)
Associate Professor of Chemistry (1969)
B.S., Spring Hill College; M.S., Fordham University; S.T.L., Woodstock College;
Ph.D., University of Massachusetts

Carleton B. Upright (1970)
Associate Professor of Education (1970);
B.S., Albany State College; M.A., Ed.D., New York University

Ignatius J. Volpe (1965)
Associate Professor of Physical Education (1969);
Basketball Coach; A.B., Manhattan College

Brother Benedict J. Wengler, O.S.F. (1970)
Associate Professor of Sociology (1970)
B.A., St. Francis College, Brooklyn; M.A. Columbia University; Doctoral Studies, Fordham University

Bernard D. Williams (1962)
Associate Professor of History (1968)
B.S., LaSalle College; M.A., Niagara University;
Doctoral Studies, University of Maryland

Joseph R. Zandarski (1951)
Associate Professor (1965), Chairman Department of Business Administration (1969);
B.S., University of Scranton;
M.B.A., New York University;
Ph.D., University of Pittsburgh

Juan Zela-Koort (1963-64; 1966)
Associate Professor of Modern Languages (1967)
A.B., University of Cuzco; Ph.D., University of Munster

ASSISTANT PROFESSORS

Eugene J. Ahern, S.J. (1966-67; 1968)
Assistant Professor of Theology (1969)
B.A., M.A., Ph.L., St. Louis University;
S.T.L., Woodstock College;
Cand. Ph.D., The Catholic University of America

Donald L. Angell (1969)
Assistant Professor of Education and Psychology (1969)
B.S., Ithaca College; M.S., University of Oregon;
Ph.D., University of Illinois

George V. Babcock, Jr. (1963)
Assistant Professor of Economics (1965)
A.B., M.A., Ph.L., Boston College; M.B.A., New York University; Cand. Ph.D., Cornell University

Carl P. Barone (1970)
Assistant Professor of Education (1970)
B.A., M.A., Colorado State College;
M.A., University of Wisconsin;
Ph.D., Ohio University

Thomas N. Beckish (1964)
Assistant Professor of Psychology (1967)
Assistant Director of Counseling Center (1964)
B.S., M.S., University of Scranton;
Doctoral Studies, Lehigh University; Certified Psychologist

John A. Beidler (1964)
Assistant Professor (1967), Chairman Department of Mathematics (1970);
A.B., King's College; M.A., Lehigh University;
Cand. Ph.D., Pennsylvania State University

Robert M. Bessoir (1968)
Assistant Professor of Physical Education (1969)
B.S., University of Scranton; M.S., East Stroudsburg State College

On Leave 1970-71

Mrigendra N. Bose (1968)
Assistant Professor of Business Administration (1968)
B.S., Gaya College, India; M.A., University of Calcutta; M.S., University of Kentucky; Cand. Ph.D., University of Utah

Richard J. Bourcier (1968)
Assistant Professor of Modern Languages (1968)
A.B., Assumption College;
M.A., Cand. Ph.D., Laval University

Ellen M. Casey (1969)
Assistant Professor of English (1969)
B.S., Loyola University, Chicago; M.A., University of Iowa; Ph.D., University of Wisconsin

Raymond W. Champagne, Jr. (1967)
Assistant Professor of History (1969)
A.B., Providence College; M.A., Duke University;
Cand. Ph.D., Loyola University, Chicago

Stanley L. Chickson (1958)
Assistant Professor of Engineering (1958)
B.S.C.E., Pennsylvania State University;
M.S., Bucknell University

James J. Cunningham (1968)
Assistant Professor of Education (1968)
A.B., King's College; Ed. M., Ed.D., Rutgers University; Certified Psychologist

Francis H. Curtis (1966)
Assistant Professor of Education (1966)
B.S., M.Ed., Cand. Ed. D., Pennsylvania State University

Vito Del Vecchio (1969)
Assistant Professor of Biology (1969)
B.S., University of Scranton; M.S., St. John's University;
Ph.D., Hahnemann Medical College Graduate School

Anthony J. DiStefano (1968)
Assistant Professor of Physics (1968)
B.E.E., Brooklyn Polytechnic Institute;
M.A., Columbio University; Cand. Ph.D., Stevens Institute of Technology

Gary E. Eichelsdorfer (1965)*
Assistant Professor of Mathematics (1968)
A.B., Gannon College; M.A., University of Detroit;
Cand. Ph.D., Pennsylvania State University

Henry J. Erhart, S.J. (1957)
Assistant Professor of Theology (1962)
A.B., M.A., Ph.L., Boston College; S.T.B., Woodstock College

Paul F. Fahey, Jr. (1968)
Assistant Professor of Physics (1968)
B.S., University of Scranton; M.S., Ph.D., University of Virginia

Matthew C. Farrell (1967)
Assistant Professor of Education (1967)
A.B., M.S., University of Scranton; Cand. Ph.D., Fordham University

John Quentin Feller (1969)
Assistant Professor of History (1969)
A.B., Loyola College; M.A., Ph.D., The Catholic University of America

A. Leo Fleming, F.S.C., (1968)
Assistant Professor of Philosophy (1968)
A.B., The Catholic University of America; M.A., M.S., Cand. Ph.D., Fordham University

Jane Gelfand
Assistant Professor of Reading (1970)
B.S., West Chester State College; M.A., New York University; Cand. Ed.D., Lehigh University

John A. Grundman (1964)*
Assistant Professor of Philosophy (1967)
A.B., John Carroll University; Cand. Ph.D., Georgetown University

Joseph M. Hamernick, S.J. (1967)
Assistant Professor of English and Speech (1970)
B.S., St. Joseph's College; S.T.B., Woodstock College; M.A., The Catholic University of America

Walter Ross Hartsough (1968)
Assistant Professor of Education (1968)
B.S., Pennsylvania State University; M.S., Bucknell University; Cand. Ph.D., University of Connecticut

Francis X. J. Homer (1968)
Assistant Professor of History (1970)
A.B., University of Scranton; M.A., Cand. Ph.D., University of Virginia

John S. Hopkins (1967)
Assistant Professor of Physical Education (1970)
B.S., East Stroudsburg State College; M.S., University of Massachusetts

*On Leave 1970-71

Riaz Hussain (1967)
Assistant Professor of Physics (1967)
B.S., Forman College, Pakistan; M.S., University of the Panjab, Pakistan; Ph.D., Johns Hopkins University

Bernard J. Johns (1961)
Assistant Professor of Mathematics (1968)
A.B., Wilkes College; M.A., Bucknell University; Cand. Ph.D., University of Illinois

Francis X. Jordan (1966)
Assistant Professor of English (1968)
A.B., M.A., University of Scranton; Cand. Ph.D., St. Louis University

William E. Katorkas (1954)
Assistant Professor of Business Administration (1961)
B.S., University of Scranton;
M.B.A., New York University

Frank J. Katusak (1967)
Assistant Professor of Business Administration (1969)
B.A., M.B.A., University of Scranton;
Cand., Ph.D., State University of New York, Binghamton

Charles J. Keffer (1967)
Assistant Professor of Physics (1969)
B.S., University of Scranton;
M.A., Ph.D., Harvard University

Helen P. Kelley (1959)
Assistant Professor (1967)
Assistant Librarian (1959)
A.B., M.S., in L.S., Marywood College

Ibrahim Khalifa (1969)
Assistant Professor of Sociology (1969)
A.B., Cairo University;
M.A., Alexandria University; Cand. Ph.D., The Catholic University of America

John W. McGinley (1970)
Assistant Professor of Philosophy (1970)
A.B., Holy Cross College; Ph.D., Boston College

John M. McInerney (1966)
Assistant Professor of English (1968)
A.B., LeMoyne College; M.A., Ph.D., Loyola University, Chicago

Warren G. Millett (1968)
Major, U. S. Army
Assitant Professor of Military Science (1968)
A.B., Hofstra College

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